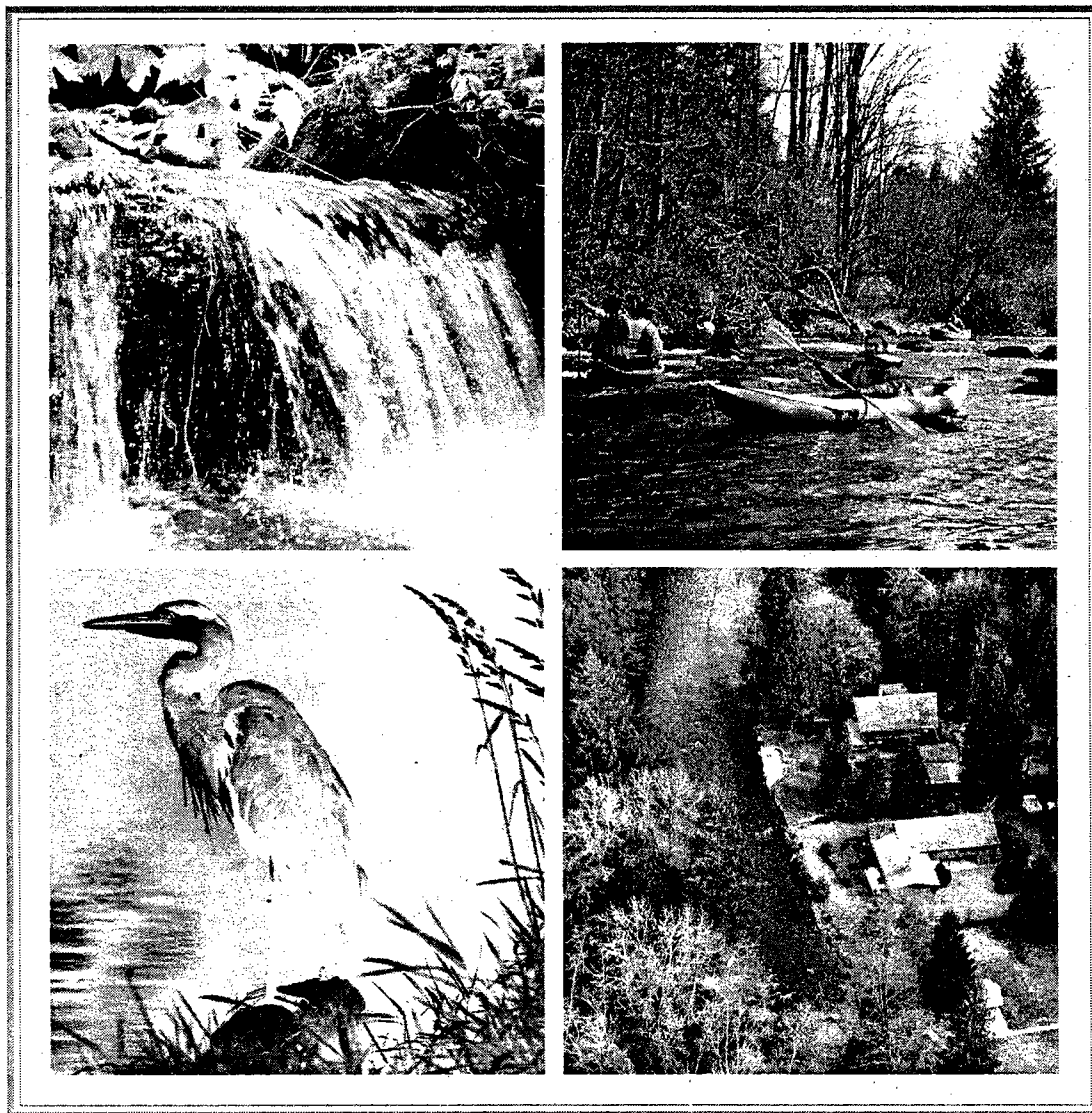


Lower Cedar River

Final Environmental Impact Statement



**King County
Surface Water
Management**
Everyone lives downstream



**WASHINGTON STATE
DEPARTMENT OF
ECOLOGY**



**Cedar River Basin
and
Nonpoint Pollution Action Plan**

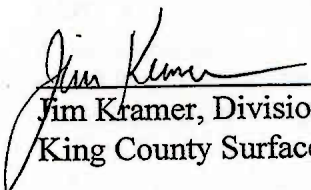
SECTION A

FINAL ENVIRONMENTAL IMPACT STATEMENT

Prepared in compliance with: State Environmental Policy Act (Chapter 43.21C RCW); the SEPA rules (Chapter 197-11 WAC); Nonpoint Action Plan Rules (Chapter 400-11 WAC); and King County Environmental Procedures (Title 20.44 KCC)

Date of Issue: April 30, 1996

Responsible Official:


Jim Kramer, Division Manager
King County Surface Water Management Division

King County Transportation &
Natural Resources Library
821 Second Avenue, M.S. 90
Seattle, WA 98104-1598

Section A: Final Environmental Impact Statement

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Preface to the Final EIS

The final environmental impact statement for the Cedar River Basin and Nonpoint Pollution Action Plan (Section A) reflects changes made in response to comments on the draft, as well as changes in the Plan itself. Specific responses to comments on the DEIS are included in Section C together with responses to comments on the Plan itself. Comments on both the Plan and the DEIS are in Section B.

Substantive changes in the FEIS from the DEIS are indicated by ~~cross-out~~ and underlining; Plan element name and number changes, reordering of lists and other typographical corrections are not highlighted.

The public comment period on the Draft WMC Proposed Cedar River Basin and Nonpoint Source Pollution Plan (February 1995) and the Draft environmental impact statement was from February 28, 1995 to April 17, 1995. Three public meetings were also held on the Plan on March 23, 28 and 30, 1995.

After the public comment period and public meetings were completed, some rural residents in the Cedar River basin expressed opposition to the clearing regulations originally proposed in the Draft Plan. Staff from King County Surface Water Management met with citizens concerned about the proposed regulations and with their input crafted an alternative package of incentives to help land owners keep their land in forest use. The revised Draft WMC Proposed Cedar River Basin Plan (February 1996) which replaced the proposed clearing regulations with a Forest Incentive Program was then taken back to the community through a series of public meetings held on March 11, 12, and 13, 1996. For more detail on citizens' concerns about the previously proposed clearing regulations and the response to their concerns, read the summary of rural resident concerns in Section C under "Other Issues," page C-28.

Fact Sheet

Title: Cedar River Basin and Nonpoint Pollution Action Plan

Brief Description: This is a nonproject proposal by the Surface Water Management Division (SWM) of the King County Department of Natural Resources in furtherance of its mandate to protect public and private resources from the adverse impacts of water quality pollution and aquatic habitat degradation. The proposal considered in this Draft EIS is for part of one basin in King County.

The proposal is being considered in response to two major governmental responsibilities: SWM's "comprehensive management of surface and storm waters and erosion control, especially that which preserves and utilizes the many values of the county's natural drainage system including open space, fish and wildlife habitat, recreation, education and urban separation" (King County Code 9.04.010), and King County's obligation, assigned to SWM, "to develop and implement (an) action plan ...to reduce pollutant loading from nonpoint sources, prevent new sources from being created, enhance water quality and protect beneficial uses" (WAC 400-12-110).

The Cedar River is one of the largest rivers in King County and is the largest tributary to Lake Washington. The Cedar River basin contains resources of local, regional and statewide international significance, including fish and wildlife and their habitat, forest and agricultural lands, urban, suburban and rural communities, and the single largest source of water for the City of Seattle Water Department, the largest supplier of municipal and industrial water in King County. The basin also contains portions of the City of Renton's sole source aquifer and the City of Kent's water supply. The basin planning area (BPA) for the proposed basin/action plan contains most of the Cedar River watershed below the City of Seattle's water supply diversion, approximately 66 square miles or 42,000 acres. Approximately 55,000 people reside within the BPA.

The Plan is being prepared by SWM to reduce current, ongoing risks of harm to public and private resources from floods, restore public and private aquatic resources harmed by degradation due to storm water runoff and related problems, and to prevent future problems. Over the past one hundred years, numerous damaging actions have occurred in the BPA, and are expected to continue to occur. SWM intends the proposed basin/action plan to correct these harms and to prevent future harms.

The resources to be protected and/or restored by the basin/action plan include:

- Public property, such as roads, bridges, utilities, schools, and other public buildings and structures;
- Private residences and property; and

- Natural resources, such as fish and wildlife and their habitat, water quality, and open space.

The main elements of the proposed plan include:

- Basinwide, programmatic measures, such as a basin steward program, public education programs, land use incentives, and modifications in land use and development regulations;
- Capital improvement projects at specified locations in the BPA to reduce flood damage; improve water quality; and restore or enhance aquatic, wetland, and related upland habitat.

This Final EIS includes consideration of the following alternative actions:

- *No action.* Continuation of current, applicable plans.
- *Capital intensive approaches.* Emphasis on measures such as construction of regional stormwater detention facilities and repair of dikes and levees, and purchase of selected residences in floodplains.
- *Programmatic intensive approaches.* Emphasis on habitat restoration, non-capital intensive measures such as a basin steward program, public education, land use controls, and other non site-specific measures.
- *Full Plan and Core Plan (preferred alternative).* In the process of developing the Plan, many possible Plan elements were considered. Only those elements that furthered Plan goals and objectives were retained. Each proposed plan element was evaluated and ranked on the basis of the degree to which it furthered the overall Plan goals. The Full Plan consists of all Plan elements that were developed to meet Plan goals. In order to identify a smaller number of Plan elements that would meet a major portion of the Plan goals for the least possible cost, the Core Plan was developed. This prioritization process is considered in detail in Chapter 5 of the Plan. The Core Plan recognizes the limited amount of resources available for even the most worthy resource management objectives. The Core Plan is the preferred alternative.

Because of its scope as a broad, nonproject proposal with numerous distinct elements, the alternatives are not considered in a discrete fashion. Instead, each of these alternatives is considered in the context of the three major goals of the Plan: to reduce flood hazards, to reduce surface water quality degradation, to protect and enhance aquatic habitat.

Entity making the proposal: Surface Water Management Division, Department of Natural Resources, King County.

Tentative date for implementation: Implementation of the Plan is proposed to occur over a ten-year period, commencing Fall, 1996. Some aquatic habitat Plan elements have been partially implemented by County Council action in Spring, 1995, through the Cedar River Legacy Program.

Name and address of the lead agency and responsible official: Jim Kramer, Division Manager, King County Surface Water Management Division, 700 Fifth Street, Suite 2200, Seattle, WA 98104-9830, (206) 296-6519.

Contact person for questions, comments, and information: Jean White, King County Surface Water Management Division, 700 Fifth Avenue, Suite 2200, Seattle, WA 98104-9830, (206) 296-1479.

Licenses/permits which the proposal is known to require: Each Plan element may require one or more of the following permits and approvals.

- Adoption by the Metropolitan King County Council (Entire Plan and specific elements requiring monetary appropriations)
- Washington Department of Fish and Wildlife (WDFW): Hydraulic Project Approvals (HPA)
- King County: Grading and/or clearing permits
- King County: Shoreline Substantial Development Permits (SSDPs)
- City of Renton: Nonpoint Pollution Action Plan Adoption; SSDPs
- City of Seattle: Nonpoint Pollution Action Plan Adoption
- City of Kent: Nonpoint Pollution Action Plan Adoption
- U.S. Army Corps of Engineers (COE): Section 404 (Federal Clean Water Act) Permits
- Washington Department of Ecology (WDOE): Section 401 (Federal Clean Water Act) Water Quality Certifications; Nonpoint Pollution Action Plan Approval; Temporary Water Quality Modifications

Authors and principal contributors: The primary author of this environmental impact statement is Toby Thaler. Principal contributors include the individual members of the Cedar Basin Planning Team, listed at the front of the Plan.

The date of issue of this Final EIS:

April 30, 1996

Final action on the Plan: Public hearings may be held by some or all of the following agencies to consider adoption of the Plan as follows:

- Metropolitan King County Council (as lead agency under WAC 197-11-050 and WAC 400-12-400(1)(a));
- Seattle City Council (on adoption as part of Seattle Water Department's Cedar Habitat Conservation Plan and as an implementing entity, WAC 400-12-545(3)(a)); and
- City of Renton, and as an implementing entity, WAC 400-12-545(3)(a)).

After the Metropolitan King County Council hearing(s) listed above, the Council will adopt (or reject) the Plan. In addition, other jurisdictions will act on the Plan as follows:

- Seattle City Council (on adoption as part of City Water Department's Cedar Watershed Plan and by concurring in the Plan to the WMC-WAC 400-12-545(3));
- City of Renton by concurring in the Plan to the WMC-WAC 400-12-545(3)); and
- Watershed Management Committee (WMC)-letter of concurrence (WAC 400-12-545).

Subsequent environmental review: The Plan includes a number of elements (particularly capital improvement projects) that will require separate environmental review. The timing of these reviews is discussed in the implementation section of the Plan.

Incorporated Documents: The following documents are incorporated by reference and made a part of this environmental impact statement.

- Cedar River Current and Future Conditions Report (1993)
- King County Comprehensive Plan and EIS (1994)
- King County Flood Hazard Reduction Plan (1993)

Availability of supporting documents: All supporting documentation is available at the SWM offices, 700 Fifth Avenue, Suite 2200, Seattle, WA 98104-9830. Some of the documents are available at the following additional locations: Renton Public Library (Main), Maple Valley Library, Highland Library, Fairwood Library, Seattle Public Library (Main).

Copies of this Final EIS:

100 copies of the FEIS have been printed for distribution to government agencies, groups, and individuals. Once the initial printing is gone, additional copies may be purchased for the cost of reproduction. Copies of the FEIS are being distributed to the libraries listed above.

Part I. Executive Summary

A. Plan Context

The Cedar River Basin and Nonpoint Pollution Action Plan is part of a series of related growth management and resource planning efforts at all levels of government. The 1990 Growth Management Act (GMA) required coordination of a number of these governmental obligations, including wetland, stream and river protection (considered sensitive areas under the 1971 State Environmental Policy Act (SEPA), and critical areas under the GMA), surface water management, flood hazard avoidance and reduction, and identification, protection and enhancement of fish and wildlife habitat areas. Informed comments from an active, organized group of governments with jurisdiction, resource agencies and residents and other interested parties will ensure a fair display and evaluation of the costs and adverse impacts as well as the risks of not implementing the Plan.

The state of the science and engineering about surface and ground water impacts from development continues to be furthered by research and study in the Puget Sound region and elsewhere. The Plan itself was preceded by extensive field work and data gathering, leading to the 1994 Current and Future Conditions Report. Similar plans have been completed for adjacent watersheds (Issaquah Creek and Soos Creek) and another is in preparation (May Creek).

The proposal is a nonproject action: a basin and nonpoint pollution action plan with numerous elements, some of which are discrete projects, but many of which are themselves nonproject actions, such as a public education program. The intent of the proposed action is to reduce flood hazards, to provide environmental benefits in the form of reduced surface and groundwater quality degradation, and to conserve or restore fish and aquatic wildlife habitat.

B. Environmental Impacts and Alternatives Compared

A number of Plan elements, particularly capital improvement projects (CIPs) in the floodplain, have the potential to cause adverse environmental impacts. Possible adverse environmental impacts include minor temporary increases in sedimentation from CIPs, and short-term impacts resulting from aquatic habitat alteration. The most significant potential adverse impacts from the CIPs are not environmental, but socio-economic in that several projects in flood prone areas in the Cedar River floodplain may result in a reduction in affordable housing for low income households in the basin planning area (BPA). Non-environmental adverse impacts of individual Plan elements--such as reductions in the affordable, low income housing base in the BPA--are generally beyond the scope of environmental review and must be addressed through the political process.

Implementation of all Plan elements under the Full Plan is likely to result in significantly less risk of the environmental impacts in the BPA identified in the Cedar River Current and Future Conditions Report (Conditions Report). The Core Plan will also reduce these risks, but to a somewhat lesser degree since it contains fewer elements.

The no-action alternative is substantially more likely to result in significant adverse environmental impacts, particularly on a cumulative basis throughout the BPA. A significant risk of harm from the no-action alternative is the likelihood that degraded water quality in the Cedar River will threaten the long term viability of the entire Lake Washington ecosystem. The no-action alternative will also result in significant, clearly identifiable decreases in surface water quality and fish and wildlife habitat in tributary areas from continued development in the BPA, and will contribute to the decline of several at-risk salmonid stocks. Surface water runoff peaks will increase, causing an increased likelihood of erosion, landslides, and local flooding hazards in tributary areas, and reduced instream flows during the dry months of late summer and early fall. Ground water quality is likely to be reduced in a number of areas, including some with sole-source aquifers providing domestic water supply. The no-action alternative will also result in increased long-term costs as the identified problems worsen and solutions are attempted after the fact.

Each of the identified adverse impacts from CIPs (in either the Core or Full Plan alternatives) will be considered through the SEPA process as each is implemented. In the event that the SEPA checklist for a specific CIP indicates a probability of significant adverse environmental impacts from construction of that project, a threshold determination will be made, leading either to specific mitigation measures and a mitigated determination of nonsignificance (MDNS) or a declaration of significance (DS) with consequent preparation of an environmental impact statement.

The programmatic actions are very unlikely to cause significant, adverse environmental impacts. However, the no-action alternative does present a significant risk of adverse environmental harm, as noted above.

Likely environmental benefits from Plan implementation include reduced flood hazards in the Cedar River floodplain, reduced risk of degraded surface and groundwater quality in the BPA, improved conservation and restoration of aquatic habitat in the BPA, and continued viability of the Cedar River as the major provider of clean water to Lake Washington. Maintenance of the biological viability of the Cedar River will also contribute toward efforts aimed at preventing extinction of the at-risk salmonid runs in the BPA and Lake Washington ecosystem.

Implementation of either the Full or Core Plans is much more consistent with existing plans than the no-action alternative. In particular, the Full or Core Plans are necessary to implement the policies of the Puget Sound Water Quality Management Plan, the King County Comprehensive Plan (and the Countywide Planning Policies), the King County Flood Hazard Reduction Plan, and the City of Renton Comprehensive Plan. The no-

action alternative is much less consistent with each of these plans. The Core Plan is slightly less consistent with these plans than the Full Plan.

The impacts of the Core and Full Plan elements are summarized in Table 1.

C. Conclusion

Due to the Plan's purpose as an environmentally beneficial action, the environmental impact analysis has concluded that unavoidable, significant adverse environmental impacts are very unlikely from Plan implementation. A number of individuals will be adversely impacted by Plan implementation due to the disruption caused by moving out of the floodplain; the Plan proposes this impact only on willing sellers. These short term impacts will be offset by the intended long term benefit of alleviating risks of substantial property damage and personal injury due to flood hazards.

A small number of individuals will be directly, beneficially impacted by the reduction in flood hazards in the Cedar River floodplain. A larger population of Basin residents will be moderately benefited by implementation of individual Plan elements through decreased flood hazards, and improved open space and recreational opportunities. A much larger population will be indirectly benefited due to incremental improvements in the quality of life of the major portion of the state's population who reside close to or who use the Basin or the Lake Washington watershed for transportation, fisheries, or simply as a backdrop to daily life.

If the Plan is not implemented, the following significant, adverse environmental impacts are likely to occur in the Basin:

- Increased risk of harm to persons and property in the mainstem and tributary areas from flooding;
- Increased degradation of surface and ground water quality, including aquifers used as domestic drinking water supply; and
- Increased and continued degradation of aquatic habitat, including increased risk to the long-term viability of Lake Washington immediately downstream of the Basin.

Table 1. Plan Elements in Recommended Priority Order, With Summary of Environmental Impacts.

Elements of the Environment											
		Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, relationship to other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
No.	Plan Element Name	Core Plan Capital Improvement Project (CIP) Recommendations									
3108	Rainbow Bend Flood Damage Reduction/Floodplain Restoration	F/H	++	++	+	0	++	+/-	--	+	0
3102	Dorre Don Flood Damage Reduction/Floodplain Restoration	F/H	+	++	+	0	++	+/-	--	+	0
3140	Maxwell Road SE Flood Abatement and Taylor Creek Restoration	F/H	+	+	+	0	+	+/-	-	+	+
3111	Elliot Bridge Lower Jones Road Flood Damage Reduction	F/H	+	++	+	0	+	+/-	--	+	0
3120	Puget Colony Homes Drainage Improvements	F/W/Q	+	+	+	+	+	+/-	0	0	+
3127	Retrofit Retention/Detention Ponds	W/Q	+	+	+	+	0	+	0	0	+
3150	Wetland 14 Protection and Restoration	H	0	+	+	+	+	+	0	+	0
3109	Ricardi Flood Damage Reduction/Floodplain Restoration	F/H	+	+	+	0	+	+/-	-	+	0
3130	Fairlane Woods Detention Pond Discharge Improvements (Alternate)	F/H	+	0	+	+	0	+	0	0	+
3107	Byers Bend/Cedar Grove Road Flood Damage Reduction	F/H	+	++	+	0	++	+/-	--	+	+0
3122	Maplewood Ravine Stabilization	F/H	+	0	+	0	+	+	0	+	+
3137	Lower Madsen Creek Sediment Pond Outlet Improvements	H/W/Q	+	0	+	0	+	+	0	0	+
3103	Dorre Don Court Flood Damage Reduction/Floodplain Restoration	F/H	+	+	+	0	+	+/-	-	+	0

Table 1, Continued		Elements of the Environment									
No.	Plan Element Name	Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, relationship to other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
3126	Tributary 0316A and Wetland 32 Restoration	H	+	0	+	0	+	+	0	+	0
3142	Trib 0321 Habitat Enhancement	H/F	+	0	+	0	+	+	0	+	0
3153	Lower Peterson Creek Habitat Restoration	H	+	0	+	0	+	+	0	+	0
3141	Taylor Creek Habitat Restoration	H	+	++	++	0	++	+	0	+	+
3134	Molasses Creek LSRA Restoration	H	+	0	+	0	+	+	0	+	0
Non-Core Plan Capital Improvement Project (CIP) Recommendations											
3136	Upper Madsen Creek Detention and Ravine Stabilization	H/F	+	0	+	0	+	+	0	+	+
3151	Lake Desire Flood Damage Reduction	F	0	+	-	+	-	++	0	0	++
3121	Trib 0303A Culvert Replacement and Rechanneling	F	0	+	0	0	0	+	0	0	+
3104	Lower Bain Road and Royal Arch Flood Damage Reduction/Floodplain Restoration	F/H	+	+	0	0	+	+/-	-	+	
3112	Maplewood Flood Damage Reduction Alternative	F	+	+	0	0	-	+/-	0	-	+
3135	Wetland 16 Buffer Revegetation	H	+		+	0	+	+	0	+	0
3106	Jan Road Flood Damage Reduction/Habitat Restoration	F/H	+	+	0	0	+	+	-	+	+
3110	Riverbend Mobile Home Park Revetment Modification	H/F	++	0	++	0	++	+/-	--	+	+
3124	Orting Hill Tributary (0307) Realignment	H	+	0	+	0	+	+	0	0	+
3101	Dorre Don Way SE Elevation (Orchard Grove)	F/H	++	+	+	0	+	+0	0	+	+

Table 1, Continued		Elements of the Environment									
No.	Plan Element Name	Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, relationship to other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
3123	Maplewood Golf Course Reach Improvements	F/H	+	+	+	0	+	+	0	+	+
3152	Peterson Lake Outlet Channel Restoration	H	0	0	+	0	+	+	0	+	0
3133	Fairwood Park Division 11 Detention Pond Retrofit	F	+	0	+	+/-	+	+	0	+	+
3105	Getchman Levee Modifications	F/H	+	+	+	0	+	+/-	0	+	0
3131	Elevation of 140th Ave SE at Wetland 22	F	0	+	0	0	0	+	0	0	+
3100	Arcadia/Noble Flood and Erosion Damage Reduction	H	++	++	+	0	++	+	-	+	0
3113	Person Revetment Modification	H/F	+	+	+	0	+	+	0	+	0
3160	Wetland 64 Restoration	H	0	0	+	0	+	+	0	+	0
3161	Walsh Lake Diversion Ditch Habitat Improvements	H	++	0	+	0	++	+	0	+	0
3125	Wetland 36 (Francis Lake) Restoration	H	+	0	+	0	+	+	0	+	0
Core Plan Programmatic Recommendations											
BW 3	Wetland Management Areas	H/WQ	+	+	++	+	++	+	0	+	+
BW 4	Priorities for Open Space Acquisitions	H	+	+	+	0	++	+	0	++	+
BW 5	Small Scale Watershed Restoration and Enhancement	H/WQ	+	+	+	+	++	+	0	+	0
BW 6	Aquatic Resource Mitigation Bank Sites	H	+		+	+	++	++	0	+	+
BW 8	Lake Washington Studies	H/WQ	0	0	+	0	++	++	0	+	0

Table 1, Continued		Elements of the Environment									
No.	Plan Element Name	Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, relationship to other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
BW 9	Improve Water Quality from Roads and Urban Areas	WQ	+	+	+	+	+	+	0	+	+
BW 10	On-site Septic System Pollution	WQ	0	0	+	++	0	+	-	0	+
BW 11	Livestock Keeping Practices	H/WQ	+	0	++	+	+	+	0	+	0
BW 12	Water Quality Treatment Design Standards	WQ	0	0	+	+	+	+	0	0	+
BW 13	Basin Evaluation	H/WQ/F	+	+	+	+	+	+	0	0	+
BW 14	Water Resources Education and Public Involvement	F/H/WQ	+	+	+	+	+	+	0	+	+
BW 15	Cedar River Watershed Council	F/H/WQ	+	+	+	+	+	+	0	+	+
BW 16	Basin Steward	F/H/WQ	0	+	++	+	++	+	0	+	+
BW 17	Aquifer Protection and Baseflow Maintenance	WQ/H	0	0	+	++	+	+	0	+	0
BW 19	Retention/Detention Standards	F/H	+	+	+	+	+	+	0	+	+
BW 23	Forest Incentive Program	H/F/WQ	+	+	+	+	+	+/+	0	+	+
MS 1	Masonry Dam Operation Study	F/H	0	*	0	0	*	*	0	*	*
MS 2	Repton Reach Capacity 205 Study	F	*	*	*	0	*	*	0	*	*
MS 3	Seek State and Federal Funding for Flood Hazard Reduction Measures	F	*	*	*	0	*	*	0	*	*
MS 4	Mainstem Habitat Restoration and Enhancement	H/F	+	+	+	0	++	+	0	+	0
MS 6	Channel Migration Hazard Areas	F	+	+	+	0	+	+	0	+	+

Table 1, Continued		Elements of the Environment									
No.	Plan Element Name	Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
MS 7	Flood Plain Mapping Analysis, Revision, and Distribution	F/H	+	+	+	0	+	+	0	0	+
MS 8	Flood Education	F	0	+	0	0	0	+	0	0	+
MS 10	Stormwater Quality in Industrial/Commercial Areas	WQ	0	0	+	+	+	+	0	0	+
MS 12	Debris Flow Protection For Mobile Home Park	F	+	+	+	0	0	+	+	0	+
RC 1	Trib. 0338 Low Flow Restoration	H	0	0	+	+	++	+	0	+	-
RC 3	Rock Creek Community Involvement and Education	H/WQ	0	0	+	+	+	+	0	+	+
Non-Core Programmatic Recommendations											
BW 1	Remove Qualifying Structures from Hazardous Areas	F/H/W Q	+	+	+	0	+	+/-	-	+	+
BW 2	Reduce Less Hazardous Flood Damage	F/H/W Q	+	+	+	0	+	+	+/-	+	+
BW 7	Artificial Salmonid Production Measures	H	0	0	0	0	+	+/-	0	0	0
BW 18	Urban Stormwater Management Initiative	H	0	0	+	+	+	+	0	0	+
BW 20	Ravine Protection Standard	F/WQ/H	+	+	+	0	+	+	0	0	+
BW 21	Infiltration as a Stormwater Mitigation Treatment	F/WQ/H	+	+	+	+	+	+	0	0	+
BW 22	Erosion and Sedimentation Control Standards	F/H/W Q	+	0	+	0	+	+	0	0	0
MS 5	Modify Levees and Revetments	F/H/W Q	+	+	+	0	+	+	0	+	+

Table 1, Continued		Elements of the Environment									
No.	Plan Element Name	Issues (Plan Goals)	Earth, erosion	Water, flood hazard	Water, surface water quality	Water, ground water quantity and quality	Fish and wildlife, habitat, diversity, T & E species, etc.	Land and shoreline use, relationship to other plans (consistency)	Land and shoreline use, housing	Land and shoreline use, recreation and aesthetics	Utilities, surface water, water supply, sewerage: Transportation, roads and bridges
MS 9	NPDES Industrial Stormwater Permits for Boeing Commercial Airplane Group and Renton Municipal Airport	WQ/F	0	0	+	0	+	+	0	0	+
MS 11	I-405 Stormwater Retrofitting	WQ	0	0	+	0	+	+	0	0	+
NT 1	Stoneway Concrete Company Stormwater Management	WQ	+	0	+	0	+	+	0	0	+
ST 1	Madsen Creek Water Quality	WQ	0	0	+	0	0	+	0	0	+
PC 1	Lake Desire Outlet Channel	F	0	+	0	0	0	+	0	0	0
PC 2	Wetland 42 Reclassification	H	0	0	+	0	+	+	0	+	0
PC 3	Shadow Ridge Drainage Study	WQ/F	*	*	*	*	0	*	0	0	*
RC 2	Wetland 92 Reclassification	H/WQ	0	0	+	0	+	+	0	0	0

Key:

Plan Goals (listed on table in priority order):

F Flood Hazard Reduction
H Aquatic and Wetland Habitat Protection or Enhancement
WQ Nonpoint Pollution Reduction (water quality protection)

Impacts on Elements of Environment

++ Significant or primary beneficial impact
+ Moderate or secondary beneficial impact
0 No significant or identifiable impacts
- Moderate negative impacts
-- Significant or unavoidable adverse impacts
* Impacts, or the lack of impacts, will be determined by proposed studies

Part II. Introduction

A. Cedar Plan Context

This document is the environmental impact statement (EIS) for the Cedar River Basin Plan and Nonpoint Pollution Action Plan (Plan). The purpose of the Plan is to address harm to public and private resources in the basin planning area (BPA—the watershed below the City of Seattle's diversion at Landsburg) from surface water runoff, and other nonpoint pollution. The purpose of this EIS is to inform governmental decision makers and the public about the environmental impacts of the recommended actions in the Plan, and to compare those impacts with those of alternative actions.

The Plan is the end result of a long process. Many entities, both governmental and private, have been involved in its development. A large number of planning and technical documents existed when Plan development was started, and more have been completed during the planning process. The most important of these is the Cedar River Current and Future Conditions Report (Conditions Report). All of these documents are listed in the bibliography. This EIS will be most useful if it is used in direct reference to the Plan, and the key documents underlying the planning process.

The Plan is the result of the cooperative efforts of many people and organizations, a number of whom have opposing interests regarding the preferred uses and management of the land and resources in the BPA. The SEPA lead agency for the proposed action, the King County Surface Water Management Division (SWM) coordinated the Plan's production as a tool for all interested parties and the public to use to meet their resource stewardship obligations. It is in the interest of all parties to conserve the resources at the center of their contentions.

B. Benefits and Disadvantages of Delaying Implementation of the Proposal

The Plan is intended to provide significant environmental benefits in the BPA: reduced flood hazards; reduced surface and groundwater quality degradation; and conserved and restored fish and aquatic wildlife habitat. The major disadvantage of reserving Plan implementation is a significant risk of each of these harms occurring, both within the BPA and to the larger Lake Washington ecosystem. The selected alternative (Core Plan) already reflects a reduction from the Full Plan alternative in response to the lack of adequate resources to address all identified problems in the BPA. Failure to implement the Core Plan or some similar set of Plan elements will probably result in a greatly increased future cost to address these problems in the future. The option is for the government—and the citizens, who pay for the government—to accept a permanently degraded Cedar River Basin and Lake Washington ecosystem.

C. How to Use This Document

The EIS is organized as follows:

Part I. Executive Summary. This part summarizes the major conclusions of the EIS.

Part II. Introduction. This part describes the context and purpose of the Plan, and includes a brief description of EIS organization.

Part III. Alternatives. The alternatives analyzed in this EIS have been chosen specifically to highlight the environmental impacts of the chosen action in comparison with the consequences of failing to act (*i.e.*, choosing not to adopt the Plan—known as the “no action alternative”) and with other alternatives that change the balance of costs and benefits. This part briefly describes the alternative actions analyzed in this EIS.

Part IV. Environmental Impact Analysis. There are three types of environmental impacts addressed by this EIS: (1) intended environmental benefits of Plan actions; (2) consequential environmental impacts of Core or Full Plan implementation; and (3) consequential environmental impacts or risks of harm as a result of no action. The intent of the drafters of the Plan is to maximize the environmental benefits while reducing, mitigating, or avoiding environmental costs. There are also non-environmental costs and benefits; to the extent that these impacts are readily determinable, they are also displayed in the Plan or EIS.

Environmental impacts may also be categorized as simple or synergistic cumulative. Simple impacts are those that directly result from an action, such as a short term increase in nonpoint pollution and a long term decrease in flood water discharge resulting from construction of a retention/detention pond. Synergistic Cumulative impacts are those that result from the interrelationship of a number of actions, such as the improvement of aquatic habitat resulting from a number of retention/detention ponds in a single basin together with implementation of best management practices (BMPs), zoning restrictions, and other land use regulations controls to reduce nonpoint pollution. Synergistic Cumulative impacts ~~include cumulative costs and benefits and~~ are the most difficult to quantify and analyze.

Part V. Plan Consistency with Other Land Use and Resource Plans. This section considers the proposed Cedar River Basin Plan in context with the numerous other land use and resource plans affecting resources of concern. The Plan is a functional implementing action for King County’s Comprehensive Plan (1994). Other major plans considered here are the City of Renton’s Comprehensive Plan (1995), the King County Flood Hazard Reduction Plan (1993), and the Puget Sound Water Quality Management Plan (1994). Due to their direct relevance and applicability, the two comprehensive plans and accompanying EISs are incorporated into this EIS by reference.

Part VI. Bibliography. The listed references provide information to help the reviewer understand the basis for the environmental analysis of this EIS. The reviewer is referred most particularly to the documents that are so central to the environmental impact analysis of this EIS that they are incorporated into it in the Fact Sheet above.

Part VII. Distribution List and Acronym List. These lists indicate the recipients of the FEIS and the meanings of the most commonly used acronyms in the FEIS.

Part III. Alternatives

A. Proposed Action (Core Plan)

The Core Plan is a selection of that portion of the Full Plan that will provide the most desired benefits (flood hazard reduction, water quality protection, habitat preservation and restoration) per unit of cost. The process for selection of the Core Plan elements is described and compared to the costs of the Full Plan in Chapter Five of the Plan. Table 1 also indicates those elements that are induced in the Core and Full Plans.

B. No Action

The no action alternative means the continued implementation of existing plans and land use and resource protection regulations. The Conditions Report displays the environmental impacts and risks of this alternative, and is incorporated into this EIS by reference. The impacts of the no action alternative are not given further detailed evaluation here except by comparison with the proposed action and the other alternatives to no action.

C. Alternatives to Proposed Action

As a combination of numerous CIPs and programmatic elements, the Plan is not readily amenable to preparation of discrete alternative configurations. An almost unlimited number of alternative could be configured from the potential plan elements. Instead, the environmental impact analysis is structured around the three major goals of the Plan: flood hazard reduction; water quality protection; and aquatic habitat preservation and restoration. Alternative approaches are evaluated within each of these areas to compare the respective ability of each to meet Plan goals and objectives, and to compare relative environmental impacts. In addition to the no action alternative, the major approaches evaluated as alternatives are:

- The proposed action and alternative (Core and Full Plan);
- A CIP intensive approach; and
- A programmatic intensive approach.

D. Alternatives Not Given Detailed Consideration

During preparation of the Plan, numerous alternative configurations for site specific elements were considered. The criteria for selection of the configurations that appear in the proposed action (Core Plan) and the alternative (Full Plan) are discussed in detail in the Plan. A number of the specific Plan elements were considered in substantially the same form in earlier plans, particularly the Flood Hazard Reduction Plan. The selected

configurations reflect the option for each site/problem that most effectively and efficiently meets Plan goals and objectives. This selection process was most significant for the capital improvement projects (CIPs). As the Plan is implemented, each of these CIPs will be reviewed again to ensure that more cost effective, environmentally beneficial options are not overlooked.

Part IV. Environmental Impact and Alternatives Analysis

A. Flood Hazard Reduction

1. Background

Flooding is a natural event. The BPA is subject to periodic, extreme rain-on-snow storms¹ that cause the amount of water in the river to increase by orders of magnitude over a short period of time. Such storms typically occur between November and February. The fish and wildlife species that were present in the BPA prior to development (from the late Pleistocene until the mid-1800s) evolved under the influence of these flooding conditions.

Flood flows in the BPA have also been greatly affected by human development in two major ways:

1. *Construction by the City of Seattle of the Masonry Dam and the Landsburg Diversion.* The dam acts as a storage reservoir and regulating device for the Landsburg Diversion eleven miles downstream. Together, the dam and diversion were built and continue to be operated primarily to provide municipal and industrial water supply to the City of Seattle's Water Department (SWD) and its wholesale customers outside the City. As secondary benefits, the dam provides flood flow reductions and diverted water produces electricity. The diversion of water out of the river by the Landsburg Diversion can reduce the base flows in the river, with numerous environmental consequences during low or critical flow periods. ~~The operation of the dam may provide the opportunity to also~~ reduces peak flood flows as well by allowing for the retention of runoff during heavy precipitation. The Further reduction of peak flood flows requires a specific operation regime by the dam's owner (SWD); if the reservoir is not drawn down to provide flood storage, the flood flows will simply be sent down river. The dam provides some low flow augmentation, and could provide more depending on its operation; this function is somewhat in opposition to flood control since the same water released in early spring to reduce flood hazards is the water needed in the late summer to augment flows.

100 year flood flows without the Masonry Dam and the Landsburg Diversion would be approximately 18,000 cfs measured at Renton. With the Landsburg Diversion in place, and as currently operated, 100 year flood flows are 11,100 cfs.

¹ Rain-on-snow events are common in the cool, marine climate of western Washington. Substantial precipitation falls during the winter months as snow when the freezing elevation is typically 1,000 to 3,000 feet elevation. When a marine storm moves in with a great deal of precipitation and a freezing elevation of 4,000 feet or higher "rain on snow" causes an extreme amount of surface water runoff. The November 1990 flooding was caused by such a sequence of storms. The second event occurred on top of already saturated soils, causing extreme runoff volumes and velocities. See Current and Future Conditions Report, page 4-2.

2. *Development in the floodplain.* The Cedar River mainstem originally meandered in its floodplain. The reduction in volume and frequency of large flows caused by Masonry Dam reduced the river's tendency to move within the floodplain. The floodplain is approximately one-third the size of a century ago. Equally important, as people moved into the floodplain, they constructed various capital improvements (e.g., homes, highways, levees) that further restricted the river. Flood hazards are increased by the fact of people moving into the floodplain and by the altering of flood flow patterns. Construction of flood control facilities (levees, etc.) to protect property from flooding in one place can increase the risk of harm from flooding and erosion elsewhere in the floodplain by raising flood elevations and/or increasing flow velocities.

2. Existing Conditions

Flooding poses a number of threats to the health and safety of residents of the BPA. These impacts include:

- Immediate threat to human life and limb from fast, deep flood water flows across private residential property and public and private access routes.
- Interference with normal and emergency service access to and from residences due to flood water flows across public and private access routes.
- Public and private property damage due to flood water flows and river bank erosion caused by flood water flows.

Flooding also poses risks to environmental resources:

- Destruction of fish populations and degradation of aquatic habitat.
- Destruction and degradation of wildlife habitat in the floodplain.

Finally, flooding in the lowest reach of the river causes significant economic impacts by interfering with the Renton Municipal Airport. This impact is aggravated by the lack of removal of sediments from the waterway by the Corps of Engineers. Conditions Report, p. 4-8.

The following statements summarize the conclusions regarding flooding in the Conditions Report:

Mainstem Flood Flows. Flood flows in the mainstem of the Cedar River are strongly dependent on the operation of Masonry Dam. Flood flows in the mainstem of the Cedar River are not strongly related to potential maximum build-out in the BPA; the major portion of peak flows originate upstream from the BPA in the undevelopable City of

Seattle watershed. Little change is expected in the peak flood flows on the mainstem. Aside from changes in the operation of the Masonry Dam and, to a lesser extent the Landsburg Diversion, ~~little change is expected in the peak flood flows on the mainstem.~~

Floodplain Flood Hazards. Over 100 homes are located within the mainstem 10 year floodplain. Most of these homes are also subject to dangerously fast, deep flows during 100 year floods. Approximately 50 homes are within the 25 year floodplain and another 110 homes are within the 100 year floodplain; the residents of these homes are at relatively less risk the further toward the landward edge of the 100 year floodplain they are located.

Tributary Subbasin Flooding. Future flood flows in the tributary subbasins are directly related to future development, as reflected in increased percentages of impervious surfaces. Flood hazards in the tributary basins tend to be of much lower severity than those on the mainstem, and consist primarily of minor property damage and interference with access. Peak flood flows are expected to increase substantially in certain subbasins as a result of projected development, but future problems will likely not approach the magnitude of mainstem hazards.

River Mouth Flooding. There is substantial non-residential flooding of municipal and commercial properties at the mouth of the river (City of Renton Municipal Airport, etc.). Flood flows in this area are related to reduced channel capacity due to sediment accumulation from upstream; the flat gradient and narrowed mainstem channel force most such sediments to be deposited in the lower reach of the river. Currently, significant impacts begin with five year floods, with some flooding of the right bank trail and the left bank airport road occurring almost every year.

3. Impacts of Flood Hazard Reduction Plan Elements

Earth: A number of Plan elements designed to address flooding as a primary or secondary benefit will also have a generally beneficial impact on earth resources (sedimentation and erosion):

- Many of the capital improvement projects (CIPs) are intended to reduce the risk to human life by removing housing from floodplain areas. A few proposals include improved revetments and other flood control facilities. A number of the CIPs include revegetation of revetments and floodplain areas. All of these projects present a risk of minor erosion and siltation from work in or adjacent to the floodplain. These risks will be evaluated and mitigated in site-specific environmental review during Plan implementation. The short-term impact of the CIPs will be a moderate, temporary increase in sedimentation and erosion into the mainstem Cedar caused by earth-moving during removal of structures. However, the amount of sedimentation and erosion coming from these areas is expected to be minor, and the sites will become

less susceptible to erosion over time as the sites revegetate, making the long-term impact insignificant.

- The multiple objective (habitat restoration and/or nonpoint pollution prevention in addition to flood hazard reduction) Plan elements will have positive effects on earth resources, but in a very indirect or attenuated manner.
- BW 19: Retention/Detention Standards, will reduce flood related risk of erosion and sedimentation from new development in the BPA, particularly in the tributary subbasins.
- BW 20: Ravine Protection Standards, will reduce flood related risk of erosion in the steep sloped areas in which it is applied.
- BW 21: Infiltration as a Stormwater Mitigation Treatment, will reduce flood related risk of erosion and sedimentation from new development in the BPA, particularly in the tributary subbasins.
- MS 1: Masonry Dam Operations Study; MS 2: Renton Reach Capacity Study; MS 3: Seek State and Federal Funding for Flood Hazard Reduction Measures; MS 5: Modify Levees and Revetments; MS 6: Channel Migration Hazard Areas; MS 7: Floodplain Mapping Analysis, Revision, and Distribution; MS 8: Flood Education. This series of measures addresses flooding and related problems and issues in the mainstem subarea. Implementation of these elements will reduce the risk of erosion from floods by reducing the amount of exposed (unvegetated) earth, by providing more flood storage area, thereby reducing the depth and velocity of flows. In addition, these Plan elements will reduce new construction in areas likely to become part of the floodplain in the future, improve the efficiency of existing levees and revetments, and increase knowledge on the part of agencies and the public regarding ongoing measures to reduce long range flood hazards.
- MS 12: Debris-Flow Protection for Mobile Home Park, is primarily designed to reduce a clear risk of harm to life and property from earth movement at a specific location.
- Other site specific measures designed to address flood hazards will have minor positive impacts by reducing the risk of erosion.

Water: Implementation of flood control elements in the Plan will result in reduced risk of negative impacts to base flows in tributary streams. There will be a similar, minor positive impact on groundwater quantity. Groundwater recharge levels will also be maintained by implementation of flood control measures in the tributary subbasins, particularly BW 21: Infiltration as a Stormwater Mitigation Treatment, and BW 19: Retention Detention Standards. Another minor, but significant, positive impact results from removal of houses in the flood plain; this action reduces the potential for ground and surface water contamination from septic systems and residential chemicals in the floodplain.

Housing: Plan elements designed to reduce the threat to life and property from floods remove up to 150 units of housing from the stock of available housing. The owners of removed housing will be financially compensated, allowing them to purchase replacement housing on the open market. The impacts on individuals from these removals may be substantial. For example, CIP 3108 will remove a number of affordable low income housing units that fair market value compensation cannot adequately replace. This adverse impact on low income housing affects a significant portion of the 150 units. These impacts could be directly mitigated when the CIPs are implemented, but at a significantly increased monetary cost for compensation or relocation assistance.

Renters of houses or trailers to be removed will also be adversely impacted in a manner that is difficult to mitigate. These impacts may be mitigated by means of relocation assistance directly by the County or under Section 205 of the 1948 Federal Flood Control Act.

Implementation of these CIP Plan elements will have no direct impact on the designation of the 100 year flood plain by the Federal Emergency Management Agency for Flood Insurance purposes. Nor will there be any direct impact on the availability of financial assistance to residents from other state and local agencies. Implementation of these Plan elements will potentially reduce the cost of these various programs due to the incremental reduction in the number of residents potentially needing such insurance or assistance.

A more difficult to quantify impact of the Plan is the increase in the cost of housing as a result of surface water utility and resource protection requirements. Housing costs are also affected by increases in the cost of land, the rate of which is generally greater than inflation in King County, bringing great pressure to bear on land in the rural zone near urban areas. The areas around the core of urban King County provide the focus for much political conflict as a result of these tensions. The reader is referred to the Renton Comprehensive Plan Land Use Element, Housing Element, and EIS, Appendices A and B, for discussions of the availability of land for housing in the Basin Planning Area.

All together, implementation of the Plan is not likely to significantly impact the housing market in the local or regional area, particularly insofar as the impacts will occur over a period of years. To the extent that less than the Full Plan is implemented, these minor impacts will be correspondingly fewer.

Land and Shoreline Use: The Plan's preferred actions to address flood hazards would impact land uses insignificantly in terms of the percentage of land in the BPA affected by proposed changes. Shoreline uses on the mainstem (in the floodplain) would be significantly changed by increasing the amount of land subject to periodic flooding; presumably this flooding will be of open space in land uses not adversely impacted by periodic inundation. A substantial amount of shoreline would be changed from private housing with no public access to the river to publicly owned open space with access limited only by the need to protect people from hazardous conditions and to protect public resources (anadromous fisheries spawning, summer rearing and overwintering

areas, critical wildlife habitat areas, etc.). Land and shoreline use impacts in tributary watersheds would be insignificant; there would be some improvement in the protection of shoreline areas from (lower risk levels of) flood hazards.

Transportation: The removal of housing from a number of areas will eliminate or reduce the need for access to those areas. Other measures will improve access to homes remaining in areas with roads subject to periodic flooding. The overall amount of public roads affected is minor. Flood hazard reduction measures in the Plan will not have other significant impacts on transportation.

The Renton Municipal Airport is a regionally significant economic resource. Plan elements MS 1: Masonry Dam Operations Study, MS 2: Renton Reach Capacity Study, and MS 3: Seek State and Federal Funding for Flood Hazard Reduction Measures, all address alleviation of the flooding problems in this area. King County is not responsible for, or capable of, implementation of the results of any of the studies that would result from these Plan elements.

Public Services: Implementation of the Plan's flood hazard reduction measures will reduce public expenditures over the long term for road, levee and revetment maintenance and emergency services. Other public services are not likely to be directly or significantly impacted by the Plan. The reader is referred to the County's implementation of its new Comprehensive Plan, which will have such impacts in the BPA.

Fish and Wildlife: Implementation of the Plan's flood hazard reduction measures will increase available fish and wildlife habitat in both the mainstem and tributary areas, generally by reestablishing previously degraded areas. Conservation and enhancement of existing habitat will be significant in tributary areas.

Two Plan elements consist of ongoing studies lead primarily by other parties (City of Renton, Corps of Engineers) to reduce flood hazards in the lower Cedar ~~by dredging the river~~. MS 2 and 3². Implementation of the results of these studies may cause adverse impacts on that aquatic habitat, and fisheries residing or migrating therein. The specific impacts, and potential mitigation measures will be addressed in the course of the studies. Implementation of these actions will require separate environmental review.

Recreation: The removal of houses from the floodplain will provide some increased opportunity for recreation, as described under *land and shoreline use* above.

Aesthetics: There will be a modest improvement of aesthetics on the mainstem where homes are removed. There will be a similar, modest positive impact in tributary areas from other flood hazard reduction measures.

² MS 3 was referred to as "Army Corps of Engineers Section 205 Study" in the Draft Plan and EIS. In the intervening time, the COE has indicated that funding will not be available for this work after the current year.

4. Impacts of Alternative Actions

1. *No Action.* Current flood hazards and environmental impacts would continue and increase as described here and in the Conditions Report. The potential for future increases in hazardous conditions in the mainstem floodplain are reduced by a federal law requiring all new structures in floodplains to carry flood insurance, although coverage is incomplete. Similarly, the King County SAO requires “zero rise” in 100 year flood stage from construction in the floodplain except under certain circumstances.³ Together, these measures shift responsibility for most potential new flood hazards to the affected individuals, but do not prevent them from occurring.
2. *Core Plan.* This alternative would select for implementation only that portion of the Plan elements that produce the greatest benefit for cost. The Core Plan will meet most of the overall Plan objectives, while reducing expenditures on the least cost effective Plan elements. As explained in Chapter 5 of the Plan, this prioritization does *not* mean that the non-Core Plan elements do not meet Plan objectives. Practically, in light of limited resources at all levels (County, state, federal), the Core Plan is the realistic appraisal of those elements that should be implemented first. Selection of the Core Plan will extend the period of time that the exposure to flood hazards will continue at those sites not included for implementation.
3. *Programmatic intensive actions.* As an alternative to removal of houses, the County could provide only enough capital to meet the highest priority hazards, and could do so by avoiding outright purchase. Alternatives include raising houses and improving access to withstand higher flood waters. These alternatives are considered on a case by case basis in the Plan. Cumulatively, selection of this option will shift responsibility for avoiding all but the most severe flood hazards to private land owners.
4. *Capital intensive actions.* The County, with help from cooperators, could allocate funds to pay for the removal of all houses in the Cedar River floodplain. This action would reduce the flood hazard impacts, but would cost the public more than the proposed action for each unit of benefit. The other capital intensive method of addressing flood hazards is to increase reliance on levees and revetments. In the long run, this solution may be less effective at reducing the risk of harm due to the continued or increased quantity of people and property in harm’s way, and the limited effectiveness of the improvements in most cases to have the intended affect. Sites where levee modifications will actually reduce flood hazards have been retained as proposed Plan elements.

This alternative (spending capital on flood control rather than hazard reduction) would also forego a number of the secondary benefits of the proposed action, such as improved riparian and aquatic fish and wildlife habitat, open space, and recreation)

³ State law only prohibits above “one foot” rise; once areas are annexed out of County jurisdiction, application of the zero rise provision in the SAO may change.

and would continue to expose individual residences to catastrophic flood hazards and the County to continued liability to subsidize maintenance of capital intensive measures to protect these homes and to provide emergency services.

Part IV. Environmental Impact and Alternatives Analysis (Cont.)

B. Water Quality and Quantity

1. Background

Protection of water quality is perhaps the most complicated, ~~and most important,~~ goal of the Plan. Water quality problems come in many forms: surface and storm water runoff contaminated by pesticide use, ~~storm water runoff contaminated by~~ oil and other hazardous material from streets, and discharge of incompletely treated wastes from businesses; and groundwater contamination from the same sources. Groundwater includes aquifers important for domestic water supply, particularly outside the urban growth boundary. The scope of existing water quality problems in the BPA has been ~~exhaustively~~ extensively studied, particularly insofar as the BPA is a major tributary of Lake Washington and Puget Sound. See, for example, Changes in Cedar River Water Quality and Potential Impacts on Lake Washington Water Quality, Fisheries and Habitat, Solomon, 1994.

For purposes of governmental actions to address the problem, water quality consists of two major components: discrete sources and nonpoint sources. The former are exemplified by the piped discharge of treated municipal waste to surface waters. Point source discharges are permitted under the NPDES (national pollutant discharge elimination system).

There are few NPDES permits in the BPA. Discharges covered by NPDES permits are not covered under the Plan. King County's application for a municipal stormwater NPDES permit covering a large area, including the BPA, is in negotiation with the state Department of Ecology (WDOE). King County is one of a number of agencies obtaining this permit; including the Washington Department of Transportation.

Several Plan elements directly or indirectly affect water quantity in the BPA. Water quantity includes flooding issues, addressed in the first part of this section of the EIS. Water quantity also includes consideration of ground water recharge, considered throughout the EIS, and minimum instream flow issues.⁴ Also see the discussion in the

⁴ A secondary objective of MS 1 (Masonry Dam Study) is to enhance water supply for both consumptive and instream uses. In a related action, the Seattle Water Department (SWD) is initiating a Habitat Conservation Plan (HCP) process as the Cedar Plan and this EIS are being completed. HCPs are primarily intended to address fish and wildlife issues through habitat management by large landowners, such as SWD and the Upper Cedar Basin. The HCP process is related to implementation of the federal Endangered Species Act. The SWD's HCP, as outlined in August 1995, will include provisions regarding minimum flows in the Cedar River below Landsburg (i.e. the mainstem Cedar River through the BPA). SWD and the resource management agencies (WDFW, WDOE, MIT) are presently negotiating the instream flow

consistency section (Part V) of the Instream Resources Protection Program--IRPP. The major Plan element impacting instream flows in a tributary, RC 1 (Rock Creek Low Flow Restoration), will significantly impact water quantity by increasing the minimum instream flows in that tributary stream.

2. Existing Nonpoint Pollution Conditions in the BPA

Water quality problems from nonpoint sources in the BPA are numerous. Water pollution problems in the BPA are attributable to a number of nonpoint sources, including:

- Urbanization (conversion of land use from forestry or open space to residential, commercial, etc.) increases runoff from streets, including metals, petroleum products, solids, nutrients, and fecal coliform, and increases the risk of long term harm to groundwater aquifers.
- Urbanization—residential and other non-forestry current land uses—produces increasing amounts of runoff of other toxic material, such as pesticides used on lawns and golf courses.
- Failures of residential septic systems pose a risk to ground and surface water quality.
- Runoff from commercial and industrial land uses into the lower mainstem (Renton Reach) cause significant water quality problems.

Water quality in the Cedar River is of particular importance due to the river's role as the major contributor of fresh water to the Lake Washington basin. Lake Washington is the largest and most important urbanized lake in the state. It provides a multitude of benefits to the million people who live in its watershed or within a few miles of its shores, including fisheries, recreation, and navigation for these and many commercial uses. King County would not have the same quality of life if Lake Washington did not exist, or if its water quality is seriously degraded. If the major source of clean water to the lake is contaminated, the risks of harm to a regional resource are very great.

Threats to both surface and groundwater quality in BPA subbasins are also widespread, as detailed in Chapter 6 of the Conditions Report. These impacts are more direct than those on Lake Washington; the subbasins are much smaller so that a smaller amount of pollution may cause significant, perceptible harm.

A more general discussion putting the Cedar Basin in its Puget Sound context is in Puget Sound Water Quality Authority (PSWQA) documents listed in the bibliography (Part VI).

provisions that SWD would include in the Cedar Basin HCP. The reader is advised to contact the SWD for details and the current status of the process.

As identified in the Conditions Report, the future direction of surface water quality in the BPA is not positive unless substantial efforts, such as this Plan, are undertaken. All of the Plan elements are designed to prevent the future conditions that will occur without such actions. However, it is important to keep in mind that decisions have already been made which will cause impacts that may not be completely corrected through implementation of the Full Plan. The designation of a significant portion of the BPA as the City of Renton's UGA means that area will most likely convert from low density rural land uses to higher density, urban land uses. The Plan contains numerous elements (e.g., BW 18: Urban Stormwater Management Initiative; BW 14: Water Resources Education and Public Involvement; BW 9: Improvement of Water Quality from Roads and Urban Areas) to address these problems, but it is more likely than not that some environmental degradation will occur in and from these areas.

3. Current Law and Plans Regulating Nonpoint Pollution in the BPA

The Plan is part of a broader scheme of laws, regulations and plans designed to prevent further degradation of water quality and, hopefully, to restore water quality in previously degraded areas.

Although it has long been recognized that land uses have the potential to adversely impact surface and groundwater quality, legislative actions to address these harms have largely occurred within the last twenty years ago. The most important of these enactments are:

- Section 208 (1972 Federal Clean Water Act)
- State Clean Water Act
- State Forest Practices Act.

In furtherance and implementation of these laws, the following regulations and plans have been enacted that impact activities in the BPA:

- WDOE Dairy Waste Management Plan
- WDOE Forest Practices Regulations (WAC 173-202, which adopts by reference water quality related forest practices regulations of the Forest Practices Board, found at WAC 222)
- WDOE Nonpoint Source Water Quality Plan (1981)
- WDOE Forest Practice Water Quality Management Plan (1979)
- PSWQA Puget Sound Water Quality Management Plan (1994).

The most relevant of these plans are discussed further in Part V, below.

4. Impacts of Nonpoint Source Pollution Plan Elements

Many Plan elements have water quality protection as a primary goal. These measures deal with problems both basinwide and in discrete portions of the BPA.

Earth: A few of the capital improvement projects (CIPs) in the Plan have reduction of water quality degradation as their primary or secondary purpose: 3120, 3127, and 3137. All three of these CIPs are in the Core Plan. In addition, some CIPs are intended to address the related nonpoint problem of erosion and sedimentation: 3100, 3112, 3120, 3122, 3123, 3130, and 3136. Each of these CIPs has the potential to cause short term water quality problems due to construction or other ground disturbing implementing actions in or adjacent to surface waters. These risks will be analyzed on a site-specific basis as each CIP is implemented; some risks will be mitigatable while others may be unavoidable (e.g., water quality degradation from Renton Reach dredging-MS 2).

Water: The nonpoint action plan elements of the Plan are primarily intended to improve water quality in the BPA. Those elements in the Core Plan include:

- BW 9: Improve Water Quality from Roads and Urban Areas
- BW 10: On-Site Septic System Pollution
- BW 11: Livestock Keeping Practices
- BW 12: Water Quality Treatment Standards
- BW 14: Water Resources Education and Public Involvement
- BW 19: Retention/Detention Standards
- BW 23: Forest Incentive Program ~~Protection Standards for New Development~~
- MS 10: Stormwater Quality in Industrial/Commercial Areas.

The Full Plan also includes:

- BW 18: Urban Stormwater Management Initiative
- BW 20: Ravine Protection Standard
- BW 21: Infiltration as a Stormwater Mitigation Treatment
- BW 22: Erosion and Sedimentation Control Standards
- MS 9: NPDES Industrial Stormwater Permit (including Renton Airport)
- MS 11: Interstate 405 Stormwater Retrofitting
- ST 1: Madsen Creek Water Quality

Implementation of these proposals will reduce water quality problems in the BPA. Little or no water degradation—short or long-term—is expected from their implementation.

There will be some risk of short term water quality degradation from implementation of a number of the Plan elements designed to control flooding or to mitigate or enhance aquatic habitat. These Plan elements are listed under *earth*, above; their impact on water quality is expected to be short term and minor and will be addressed as each project is implemented.

Failure to implement Core or Full Plan elements will likely result in degradation of water quality, both locally and cumulatively over large areas of the BPA.

Plants and Animals: BW 12: Water Quality Treatment Standards, will have beneficial impacts on plants and wildlife in the BPA. Other impacts on plants and wildlife from nonpoint action plan elements in the Plan are indirect and either positive or insignificant.

Environmental Health: The proposed action will result in a decrease in the threat to public health and safety by reducing the possibility of contaminated groundwater supplies from failed septic systems and other nonpoint sources. Primary contact with surface water pollution occurs during recreational activities (swimming in contaminated lakes and streams).

Land and Shoreline Use: Plan elements to prevent and mitigate nonpoint pollution will alter the permitted land uses in the BPA primarily by requiring greater retention and infiltration of surface water runoff ~~the retention of a greater percentage of land in a forested (uncleared) condition~~ than is permitted under existing regulations. This may result in higher housing costs due to a reduced availability of land for housing in rural areas. The elements of the Plan causing this impact are primarily:

- BW 19: Retention/Detention Standards
- BW 21: Infiltration as a Stormwater Mitigation Treatment.

The ~~first~~ second is not in the Core Plan.

The Plan also provides for increased density of housing in areas that are already characterized by urban growth, have utilities and services readily available, and would impact surface water quality at a significantly lower level than elsewhere in the BPA. The portions of the BPA subject to increased housing densities are primarily in the east Renton Plateau area, within the City of Renton's urban growth area. Water quality BMPs will apply to development activities in this area.

Housing: The nonpoint action plan elements will have a minor impact on housing by increasing costs due to more stringent requirements for treatment of sewage in areas

without connections to Metro's sewage treatment system (BW 10). The increased cost in housing outside the UGA will be largely offset by the increased density permitted within the UGA under GMA implementing actions, including the City of Renton's Comprehensive Plan.

Transportation: Implementation of BW 9: Improvement of Water Quality from Road Drainage and Urban Areas, could increase the cost of transportation by increasing the cost of road construction and maintenance. This increase in cost is difficult to quantify and is not passed on directly to those who use highway infrastructure; it is reflected in a society-wide, incrementally higher cost of constructing and maintaining highway runoff and wastewater treatment facilities. This impact is difficult to quantify. Highways are increasingly recognized as a major source of nonpoint pollution and Washington State, King County, the City of Renton and others responsible for road construction and maintenance are required to "clean up" this source over time under the laws and plans cited at the beginning of this section. The incrementally higher cost of transportation that results has been recognized and accepted as a tradeoff by society in the development of relevant laws and policies. The Renton Municipal Airport is a transportation facility in the BPA with a large impervious surface contributing to potential water quality problems covered by BW 9; implementation of that Plan element is unlikely to significantly affect the operation of the airport.

Impacts on all other resources from implementation of the nonpoint action plan portion of the Plan will be minor, positive or insignificant.

5. Impacts of Alternative Nonpoint Source Plan Elements

Alternative Nonpoint Source Actions include: (1) No Action or continuation of existing plans and regulations; (2) Implementation of all available technologies and measures to reduce, eliminate or mitigate nonpoint pollution; and (3) Implementation of only capital measures; and (4) Implementation of only non-capital measures.

1. *No Action.* The specific actions that would take place under the no action alternative are described in some detail in the section above on current law and regulation of nonpoint pollution. Also see the Conditions Report at Chapter 6.6. The environmental consequences of the no action alternative are a continued, gradual deterioration of water quality in the BPA as a result of nonpoint pollution. Current laws will mitigate these impacts to some extent, but the following sources will increase in their overall contribution to water quality degradation: (1) increased residential development; (2) conversion of forest lands to non-forest land uses; (3) increased runoff from streets and other impervious surfaces; (4) continued or increased failure rate of on-site septic systems; and (5) continued or increased runoff from noncommercial farms. These sources are not mutually exclusive; a number of them may occur as the result of a single action, such as clearing of forest land for developments that include all of the other elements.

The proposed action does not include implementation of all known, available measures for addressing nonpoint pollution. Perhaps the most significant of the measures that is not included is the control of runoff from highways. King County does not have jurisdiction over runoff from a substantial portion of the highway surface area in the BPA, including Interstate 405 (I-405) at the lower end of the BPA, State Route (SR) 169 that runs down the middle of the BPA, and SR 18 that cuts across the BPA. All three of these highways are under the jurisdiction of the Washington State Department of Transportation. In theory, runoff pollution from these highways is required to be abated by that agency's NPDES permit under the no action alternative, albeit at great expense.

2. *Core v. Full Plan.* Implementation of the Core Plan will not result in a significant reduction in the costs of implementation of the water quality related Plan elements, nor significantly alter its impacts on nonpoint pollution prevention.
3. *Capital intensive alternative.* The nonpoint action elements of the Plan are collectively less capital intensive than either flood hazard reduction or habitat conservation measures. Generally, resolution of capital intensive measures is less likely to correct identified water quality problems than basinwide, programmatic measures. The major exception to this conclusion is that correction of surface water problems from streets and highways is a technologically feasible action. As indicated in the discussion of the no action alternative, the policy decision to take this extremely expensive action has not been made.

Part IV. Environmental Impact and Alternatives Analysis (Cont.)

C. Aquatic Habitat

1. Background

The BPA provides extensive fish and wildlife habitat of both regional and local significance. Protection and restoration of this habitat is a major goal of the Plan. The County places a high priority on this goal due to the great economic and cultural benefits generated by these resources.

Fish and wildlife habitat and species management is an extremely complex undertaking. Fish and wildlife species ~~harvest~~ comanagement responsibility rests ~~largely~~ with the Washington Department of Fish and Wildlife (WDFW), ~~with overlapping jurisdiction by~~ and the Muckleshoot Indian Tribe (MIT). Other agencies have some habitat management authority, including the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

Although King County does not manage fish and wildlife populations directly, management of land use and surface water by County agencies (and other municipalities such as the City of Renton), directly and indirectly affects aquatic and terrestrial habitats and the biota (plants and animals) that inhabit them.

Neither the state nor MIT ~~have~~ has direct jurisdiction to manage and protect fish and wildlife habitat,⁵ although the WDFW does have limited jurisdiction over projects within the ordinary high water line of "waters of the state" that impact fish under the Hydraulic Project Approval statute (HPA--RCW 75.20.100). The federal agencies with habitat management authority are even less able, legally and practically, to address fish and wildlife habitat problems in the BPA; their actions are generally restricted to crisis management related to federal law, such as Endangered Species Act (ESA) listings and the sea lion/steelhead problem at the Ballard Locks (Lake Washington Ship Canal).

⁵ The MIT has adjudicated property interests in anadromous fisheries present in the BPA, and has similar interests in shellfish, resident fisheries and wildlife resources. The MIT's legal rights with regard to anadromous fisheries harvest management are well defined as a result of many years of litigation and negotiations with the state. Tribal shellfish rights are the subject of a recent federal court decision, finding them to be similar to anadromous fisheries rights. Non-anadromous fisheries and wildlife harvest and habitat management interests by the MIT are recognized by King County, but are less well defined. Treaty based tribal rights regarding anadromous fisheries habitat protection were adjudicated in Phase II of the "Boldt Decision", in which the tribes won a general declaration that their property rights include more than the right to dip nets into "empty waters", but there has been little clarification of the meaning of this decision for specific actions, such as this Plan.

This complex jurisdictional situation leaves the County with significant responsibility and flexibility to address general fish and wildlife habitat problems in the BPA. Local governments have historically lacked adequate resources to resolve these issues. Recent laws, particularly the Growth Management Act (GMA), make the County's responsibilities to conserve fish and wildlife resources explicit.⁶

In order to be effective in protecting and restoring habitat in a manner consistent with its other responsibilities, the County must (1) prioritize those habitat problems it is capable of addressing, and (2) work closely with the fish and wildlife management agencies to develop habitat management measures for the BPA. Both WDFW and MIT have been active participants in the development of this Plan. A major concern of these agencies is that habitat management measures be consistent with their current fisheries management objectives, and that potential impacts from private and public actions be properly considered and adequately mitigated or avoided.

The Plan proposes a number of actions specifically designed to remedy identified aquatic habitat problems. Other Plan elements provide aquatic habitat benefits as a secondary consequence of their primary purpose, e.g., flood damage reduction and water quality improvements.

Finally, Plan elements have been evaluated to determine if they present a risk of harm to aquatic habitat; such potential impacts are displayed in this EIS to the extent that they can be identified in this programmatic EIS. Capital improvement projects (CIPs), in particular, pose this type of risk, but site specific evaluation of these impacts and means to mitigate or avoid them will not occur until project implementation. At that time, an individual SEPA checklist and threshold determination will be prepared for each CIP. It is expected that some of these CIPs will pose some risk of minor, short term habitat or water quality degradation. One of the purposes of the SEPA process at the time of Plan element implementation will be to ensure that such impacts are identified and mitigated.

2. Existing Conditions

Extensive documentation exists on the status of both habitat and species in the BPA. The most studied species are anadromous fish. The quantity, quality and functioning of aquatic habitats—streams, rivers, lakes and wetlands—is documented in Chapter 7 of the Conditions Report, and the bibliography to this EIS (Part VI) lists other source documents that summarize current BPA aquatic habitat conditions. The two main conclusions that may be drawn are:

1. Past human activities have greatly reduced the amount and quality of aquatic habitat in the BPA. Mainstem channel and floodplain habitats have ~~has~~ been reduced by more

⁶ This obligation is met initially through sensitive areas ordinances. The Plan supplements the County's SAO for protection of fish and wildlife habitat.

than half. Urban development and conversion of forest lands to other uses have ~~has~~ caused the loss and degradation of much habitat, particularly wetlands, on both the valley floor and in tributary areas. Diversion of water for municipal uses continues to impact both the mainstem and Rock Creek.

2. In spite of these impacts, the BPA still supports many populations of the most important fish and wildlife ~~populations~~ species in the County--although the populations of anadromous fisheries currently using BPA habitat are much lower than historic levels, and contains a large amount of high quality aquatic habitat and many habitats that could be restored or enhanced. However, both BPA and Lake Washington aquatic habitats are at risk of harm from further development in the BPA.

As identified in the Conditions Report, the future direction of fish and aquatic wildlife habitat species in the BPA is not positive unless substantial efforts, such as this Plan, are undertaken. All of the Plan elements are designed to prevent the future conditions that will occur without such actions. However, it is important to keep in mind that decisions have already been made that will cause impacts that may not be completely corrected through implementation of the Full Plan. The designation of a significant portion of the BPA as the City of Renton's UGA means that area will most likely convert from low density rural land uses to higher density urban land uses. The Plan contains numerous elements (e.g., BW 18: Urban Stormwater Management Initiative; BW 14: Water Resources Education and Public Involvement; BW 9: Improve Water Quality from Roads and Urban Areas) to address these problems, but it is more likely than not that some environmental degradation will occur.

3. Impacts of Habitat Preservation and Enhancement Plan Elements

Earth: A number of specific habitat improvement projects in the Plan present the risk of short term, adverse impacts on water quality due to increased erosion from site disturbance. Each CIP will comply with applicable King County laws, such as the SAO, to reduce this risk to an acceptable level. Implementation of a number of the Plan elements, particularly the acquisition of residential properties along the mainstem and conversion of those sites to less intensive uses, will reduce the likelihood of earth movement in those areas substantially over the long term, with a corresponding decrease in the risk of erosion and sedimentation problems.

A number of the programmatic and site specific Plan elements are intended to reduce the risk of erosion and sedimentation of surface waters. Specifically, implementation of each of the following elements will have these impacts:

- BW 19: Retention/Detention Standards, will reduce risk of erosion and sedimentation from new development in the BPA.

- BW 20: Ravine Protection Standard, is primarily designed to reduce risk of erosion and slope failures in the steep areas draining the plateau into the floodplain.
- BW 22: Erosion and Sedimentation Control Standards, will reduce short term (construction) erosion impacts in the event that current standards are inadequate.
- MS 11: Debris-Flow Protection for Mobile Home Park, is primarily designed to reduce a clear, site specific risk of harm to life and property from earth movement.

Water: By definition, Plan elements regarding aquatic habitat will impact water. The overall impact of the aquatic habitat elements of the Plan on water will be to:

- Improve water quality throughout the BPA;
- Reduce expected increases in storm water peak runoff;
- Expand the areal extent and improve the functioning of wetlands⁷ functioning throughout the BPA; and
- Improve spawning and rearing habitat (including stream hydrology) in all areas of the BPA accessible to salmonid species; and
- Modestly decrease risk of reduced minimum flows during low flow months (August and September), primarily in tributaries. RC 1 (Rock Creek Low Flow Restoration), will significantly impact water quantity by increasing the minimum instream flows in that tributary stream.

To the extent that they include removal of structures, or other earth disturbing activities, the Plan's aquatic habitat measures do pose a risk of degradation of water quality on a short term basis. Each project is subject to King County grading regulations, and it is expected that compliance with these regulations will minimize the risk of water quality degradation.

Generally, implementation of the Plan will reduce actual and potential degradation of surface and groundwater quality in the BPA and Lake Washington.

Housing: Considered as part of Land and Shoreline Use, below.

Land and Shoreline Use: A number of the habitat elements in the Plan are proposals to convert specific parcels of land from residential to open space uses, either as riverine habitat, wetlands, or simply undeveloped lands in the floodplain of the Cedar River. This

⁷ The functions, characteristics, and inventory of wetlands in the BPA are described in the Current and Future Conditions Report at pages 7-36 to 7-86.

impact is quantified in detail in the flood hazard discussion, Part III, A. The Plan does not propose to purchase residential housing except from willing sellers.

There are several regionally significant resource areas (RSRAs)⁸ that the Plan proposes to protect by means of special development conditions, such as expanded buffers. These measures will restrict the range of land uses in a limited area draining to each RSRA. The Plan proposes to protect the functioning of ~~five~~^{four} RSRA wetlands in the UGA where it is practicable to do so. Scientific research indicates that wetland functions are adversely impacted if the catchment basin above them is developed to more than approximately 8 percent impervious surfaces, which usually happens when the land use is more than 40 to 50 percent urban (residential and commercial). These areas are mapped as Wetland Management Areas (WMAs) in the Plan (BW 3: Wetland Management Areas).

A more significant land use impact of the proposed action stems from the programmatic proposals to change land use regulations in order to protect aquatic habitat in the BPA. In addition to WMAs, the programmatic plan elements that will have the greatest land use impacts are include:

- BW 18: Urban Stormwater Management Initiative.
- BW 19: Retention/Detention Standards;
- BW 21: Infiltration as a Stormwater Mitigation Treatment; and

BW 19 encourages greater development densities in the UGA portion of the BPA. Therefore, while all Plan elements are intended to ensure protection of fish and wildlife resources, this measure tends to mitigate for adverse impacts on the built environment (housing). However, these Plan elements may reduce available land for housing in rural areas; the consequential impact on the cost of housing is difficult to quantify. In any case, as indicated in the consistency section (Part V), this potential impact is consistent with overall GMA and comprehensive plan policies that most new housing shall be built in already urbanized areas.

Fish and Wildlife: Implementation of all Plan elements will substantially increase available habitat in both the mainstem and tributary areas. Implementation of the Full or Core Plan will decrease the risk of ecological harm from existing and new development in the BPA to existing and restored habitat in both the mainstem and tributary areas. Implementation of BW 8: Lake Washington Studies, will improve the ability of responsible agencies to preserve and restore habitat and manage fish stocks in the BPA into the future. Similarly, implementation of BW 6: Aquatic Resource Mitigation Bank Sites, will improve the ability of permitting agencies to require meaningful mitigation measures for new developments in the BPA with unavoidable impacts to aquatic habitat.

⁸ An assessment of many of the inventoried wetlands is in the Conditions Report at pages 7-86 to 7-88.

This should result in increased protection for existing habitats and an increased quantity and quality of restored habitats in the BPA into the future while facilitating development.

Cumulatively, implementation of the Plan will meet several objectives, including a number of the policies of the King County and City of Renton Comprehensive Plans (see Part V).

Recreation: Implementation of a number of the aquatic habitat and other Plan elements will provide increased opportunities for recreation. Passive recreation will be enhanced by protection, restoration, and enhancement of numerous aquatic habitat areas, and active recreation will be enhanced by increased access from purchase of open space and habitat areas, particularly along the mainstem. These opportunities will be tempered by the need to restrict public access in areas where the intent is primarily to protect fish and wildlife resources, and excessive public access would interfere with that purpose.

Aesthetics: The Plan will have beneficial impacts on aesthetics. These impacts are cumulative, somewhat subjective, and therefore difficult to quantify.

4. Impacts of Alternative Actions

1. *No Action.* Failure to implement the Plan will result in the continuation of existing plans, programs and regulations. The impacts and risks of this policy decision are displayed in the Conditions Report. Existing plans, programs and regulations are intended to protect aquatic habitat, but in a number of respects are inadequate.⁹ Therefore, the no action alternative is likely to cause a continued, gradual decline in the quantity and quality of habitat in the BPA. More significantly, based on current knowledge, there will be an increasing degree of risk to the ecological health of the Lake Washington ecosystem, particularly certain of the wild anadromous fish stocks in the BPA.
2. *Capital intensive actions.* Implementation of CIPs to the exclusion of programmatic measures will have greater short term impacts on aquatic habitat, both positive and negative. The purchase of numerous habitat areas will increase the areal extent of protected habitat in the BPA. Implementation of significant numbers of CIPs will pose a somewhat greater risk of harm to aquatic habitat from short term water quality degradation. The more serious impact of this alternative is the concomitant failure to implement programmatic elements; in the long run, there will be less overall protection of aquatic habitat in the BPA, and the cumulative adverse impacts will be similar to the no action alternative except for the sites specifically benefited by CIPs.
3. *Programmatic intensive actions.* Implementation of programmatic Plan elements to the exclusion of CIPs may result in long term, incremental improvement of aquatic

⁹ For example, the Puget Sound Water Quality Management Plan concludes that the SEPA process does not meet the goal of wetland protection. Page 147, *et seq.*

habitat throughout the BPA. Selection of an alternative with few or no CIPs will result in a continuation of substantial site specific flood hazards, as well as preclude opportunities for substantial habitat enhancement and restoration at numerous locations in both the floodplain and tributary areas.

4. *Core v. Full Plan.* As with both flood hazard and water quality, impacts of the Core Plan are similar but somewhat reduced in all respects from the Full Plan. Costs, impacts and benefits are all somewhat less, but not as close to the no action alternative.

Part V. Plan Consistency with Other Land Use and Resource Plans

A. Introduction

Analysis of the consistency of the Cedar Plan with other land use and resource plans impacting the BPA is a central purpose of the environmental review process.¹⁰ The Cedar Plan does not occur in a policy vacuum; there are numerous land and resource planning documents that overlap with the Plan.

Land and natural resource planning in Washington State has a long history. Zoning ordinances and state management of fish and wildlife resources have affected land and resource use in the BPA for many decades. About twenty years ago, the state began enacting laws to ensure a more coordinated, consistent, and conservative approach. Building on the origins of state authority from the various communities of the state, the traditional pattern is for the state to establish guidelines within which local governments are given much flexibility in their implementation. Each of these resource planning and management laws fits this pattern:

- Planning Enabling Act (RCW 36.70; first codification, 1959)
- State Environmental Policy Act (RCW 43.21C; 1971).
- Shoreline Management Act (RCW 90.58; 1971).
- Growth Management Act (RCW 36.70A; 1990; major amendments, 1991).

In a few instances, the state retained¹¹ primary jurisdiction or imposed less flexible resource planning standards (or was required to do so by federal law):

- Hydraulic Project Approvals (RCW 75.20.100; first codification, 1949; original statute dates to the early 1900s).
- Forest Practices Act (RCW 76.09, 1974); covers nonpoint pollution from forest practices.

¹⁰ RCW 43.21C.110(1)(f): "The elements of the built environment shall consist of ... land and shoreline use (including housing, and a description of the relationships with land use and shoreline plans and designations, including population)." WAC 197-11-440(6)(d): "This section (of the environmental impact statement-affected environment, significant impacts, and mitigation measures) shall incorporate, when appropriate: (i) A summary of existing plans (for example: Land use and shoreline plans) and zoning regulations applicable to the proposal, and how the proposal is consistent and inconsistent with them."

¹¹ Under the state enabling act and constitution, ultimate regulatory authority is in the state; local governments obtain all powers as "creatures of the state." However, as interpreted by the courts, Counties that are organized under the "home rule" provisions of the state constitution have very broad powers. King County is a home rule County.

- Water Resources Act (RCW 90.54, 1971; instream flow settings are also covered by RCW 90.22, 1969).
- Clean Water Act (RCW 90.48; major revisions, 1973; previous version, 1945).
- Puget Sound Water Quality Authority Act (RCW 90.70, 1985). (The nonpoint pollution regulations, WAC 400-12, are promulgated under this statute.)

The trend apparent from all of these laws is one of increasingly definitive standards that local governments must follow to meet the statutes' objectives of resource conservation and protection of the public health and welfare. This trend is a result of both the increased knowledge concerning the endangered status of many of the resources at issue, and an increased public awareness and political will to act. As the Plan and this EIS are being drafted, there is a concerted effort to roll back many of these laws in the state legislature. Although the outcome of these efforts is not certain, it is unlikely that the overall trend, which reflects the general public's overwhelming desire for a safe and healthy environment, will be reversed.

Under the listed (and other) laws, each resource affected by the Cedar Plan (public health and safety, aquatic fish and wildlife habitat, water quality, open space) is directly or indirectly affected by a number of other plans and policies. These other plans can be separated into two basic types: those directly related to implementation of the Growth Management Act, and those that are not. The former include:

- Multicounty Planning Policies (March 1993; currently being revised). These policies are required by the GMA to ensure consistency in comprehensive and specific land use planning among four Counties--King, Pierce, Snohomish, and Kitsap.
- Countywide Planning Policies (July, 1992; revised August, 1994). These policies are required by the GMA in order to provide consistency in comprehensive and specific land use planning among the cities and the County.
- King County Comprehensive Plan (December 1994). Originally prepared under the Planning Enabling Act, County planning is now guided substantively by the GMA. Most of the BPA is covered by this new comprehensive plan. The Comprehensive Plan is guided by the Countywide Planning Policies.
- King County Sensitive Areas Ordinance: The County SAO was originally adopted under general planning authority. It has been incorporated into the County's GMA requirements; it is part of the King County Code and, as a development regulation, is consistent with the Comprehensive Plan.
- City of Renton Comprehensive Plan (November 1994). The downstream (northwest) portion of the BPA is covered by Renton's new comprehensive

plan. Like the County's, the City of Renton's Comprehensive Plan is guided by the Countywide Planning Policies.

Plan and regulations overlapping with the Cedar Plan that are not primarily based on the GMA include:

- King County Shoreline Management Master Program (1975): These documents are the County's implementation of the Shoreline Management Act. The regulations are at KCC Title 25.
- King County Water Pollution Control Ordinance (1992). The County's implementation of the federal and state clean water acts is at KCC 8.12, and requires best management practices (BMPs) to control surface and groundwater pollution.
- King County Flood Hazard Reduction Plan (1993). This document is specifically aimed at reducing the risk of harm to persons and property from flood hazards.
- Puget Sound Water Quality Management Plan (1991). This document is the latest version of a planning effort mandated by the state's Puget Sound Water Quality Authority Act (1985). Many of the policies in this plan are directly applicable to the goals of the Cedar Basin Plan, particularly nonpoint pollution control and conservation of aquatic fish and wildlife habitat.

B. Relevant Plans Analyzed

Countywide Planning Policies (July, 1992; revised August, 1994)

The GMA requires each County and the municipalities within it to cooperate in the development of Countywide planning policies to ensure consistency among their respective comprehensive plans. As the overarching planning goals for all jurisdictions in King County, it is the most general of the documents considered here. Each relevant policy is listed and Plan consistency considered:

FW("framework policy")-4: "All jurisdictions shall protect and enhance the natural ecosystems through comprehensive plans and policies, and develop regulations that reflect natural constraints and protect sensitive features. Land use and development shall be regulated in a manner which respects fish and wildlife habitat in conjunction with natural features and functions, including air and water quality. Natural resources and the built environment shall be managed to protect, improve and sustain environmental quality while minimizing public and private costs." The Cedar Plan is totally consistent with and in furtherance of this policy.

FW-5: “Puget Sound, floodplains, rivers, streams and other water resources shall be managed for multiple beneficial uses including flood and erosion hazard reduction, fish and wildlife habitat, agriculture, open space, water supply, and hydropower. Use of water resources for one purpose shall, to the fullest extent possible, preserve and promote opportunities for other uses.” The Cedar Plan is totally consistent with and in furtherance of this policy.

CA-1 through CA-4 [Wetlands protection]: These policies require protection of wetlands and their values. The Plan is totally consistent with and in furtherance of these policies.

CA-5 and CA-6 [Groundwater protection]: These policies require protection of groundwater, particularly aquifers used for drinking water supply. The Plan is totally consistent with and in furtherance of these policies.

CA-7 through CA-11 [Fish and wildlife habitat protection]: These policies require protection of fish and wildlife habitat, with an emphasis on a cooperative ecosystem approach. The Plan is totally consistent with and in furtherance of these policies.

CA-12 [Flood hazard reduction]: This policy adopts by reference the King County Flood Hazard Reduction Plan and explicitly refers to the Cedar River. The consistency of the Cedar Plan with the Flood Hazard Reduction Plan is considered below; the Plan is totally consistent with and in furtherance of this policy.

CA-13 [Geologic hazard avoidance]: This policy refers to avoidance of erosion and related hazards through appropriate “vegetation retention, seasonal clearing and grading limits,” and other measures. The Plan is totally consistent with and in furtherance of this policy.

CA-15 [Puget Sound]: “All jurisdictions shall implement the Puget Sound Water Quality Management Plan to restore and protect the biological health and diversity of the Puget Sound Basin.” The consistency of the Cedar Plan with the Puget Sound Water Quality Management Plan is considered below; the Plan is totally consistent with and in furtherance of this policy.

FW-6 and LU-1 through LU-25 [Rural zone]: These policies provide for the maintenance and protection of a rural lifestyle. A number of them refer to measures to ensure protection of fish and wildlife, water quality, and groundwater, including surface water management techniques. The Plan is generally consistent with and in furtherance of these policies by promoting low development densities and preservation of natural features that are consistent with a rural zone.

LU-26 through LU-30 [Urban zone]: These policies provide for focused development in the urban zone. The Plan is generally consistent with these policies, although only a small portion of the BPA is affected by them.

FW-13 and LU-31 through 37 [Urbanizing areas]: These policies provide a process and policies for expansion of cities into unincorporated areas. In the BPA, the City of Renton's expansion to the south and east is relevant to the Cedar Plan. The Cedar Plan may be somewhat inconsistent with the City's expansion into these areas to the extent such annexations will permit greater densities than contemplated at the present. Greater densities will cause a risk of harm to some of the resources of interest in the Plan. See further discussion of this point at the consideration of consistency with the City of Renton's Comprehensive Plan below.

CO-10 through CO-16 [Sewer and water systems]: These policies discourage new utility systems in rural areas. The Cedar Plan is consistent with these policies.

The remainder of the Countywide Planning Policies are concerned with urban land uses, transportation, economic development, and other issues of marginal relevance to the Cedar Plan.

King County Comprehensive Plan, December 1994.

The King County Comprehensive Plan was undergoing extensive updating at the same time as the Cedar Plan was being prepared. The County's planning efforts, updating a document last rewritten in 1985, were driven in large part by the Growth Management Act. In this analysis of consistency, only those specific Comprehensive Plan policies affected by, or affecting, the Plan are listed. The subject matter of each policy or set of policies is indicated in brackets; the reader is referred to the Comprehensive Plan for the full text and detailed explanations of meaning and implementation strategies.

V 301 [citizen participation]: The Plan is very consistent by having extensive public participation included in its development and implementation.

V 302 [strengthen communities]: The Plan is not so strongly consistent; it is more focused on a series of related resources and not much focused on broader community issues. The Plan is not a community plan, which is the traditional format for implementing comprehensive plans. However, the Plan is not inherently or explicitly inconsistent with these general policies.

V 303 [multi-level planning]: The Plan is consistent in that it addresses identified resource problems at all geographical levels, and works with all affected local and state agencies.

V 304 [functional planning]: The Plan is explicitly consistent by including a programmatic, public health and welfare surface water management plan, including extensive CIP planning.

V 305 [ecosystem planning]: The Plan is very consistent in that all affected elements of the environment are considered in development and implementation.

V 306 [joint planning with cities]: The Plan is consistent, especially in conjunction with the City of Renton for the development of surface water management plans for the lower Cedar Basin. Also see the section below on consistency with the City of Renton Comprehensive Plan.

V 401 [cost benefit analysis and priorities]: The Plan is consistent.

U 202, U 501, U 502 [growth, housing directed toward urban growth area (UGA)]: The Plan is very consistent. ~~BW 29 proposes down zone outside UGA (selected areas) and up zone inside UGA (Sections 13, 14, 15, etc. east of Renton, north side of river). [effective 1/3/94?]~~

U 205 [multiple objectives and simple surface water management measures in UGA]: The Plan is consistent.

U 307 [urban separators]: The Plan is consistent in that it encourages the preservation of open space in the Cedar River floodplain and tributary wetland areas.

U 503 [environmental resource protection in urban growth area (UGA)]: The Plan is consistent by requiring adequate storm water retention/detention-BW 18, BW 19.

R 101 [rural character]: The Plan is consistent by encouraging the preservation of open space in the Cedar River floodplain and tributary wetland areas.

R ~~216~~ 215 [rural area resource conservation]: The Plan is very consistent; this policy basically states the overall goals of the Plan for all areas outside the UGA.

ED 101, ED 103 [sustainable economy and environment]: The Plan is consistent.

NE 102 [environmental stewardship, education and cooperation]: The Plan is very consistent; see, e.g., BW 14, BW 15, BW 16, ~~BW 17~~.

NE 104, NE 105, NE 301, NE 302, NE 304 [ecosystem approach, resource protection]: The Plan is very consistent; see, e.g., BW 13, MS 1.

NE 305 [cost sharing]: The Plan is consistent by calling for cooperative implementation. See Chapter 5.

NE 306, NE 307 [appropriate protection for regionally significant resource areas (RSRA), tiered priorities]: The Plan is consistent in a number of elements.

NE 308 [shorelines]: The Plan is consistent; see discussion of the King County Shoreline Master Program, below.

NE 309 [Puget Sound Water Quality Management Plan (PSWQA)]: The Plan is consistent (see discussion below and in Part IV, B).

NE 310 [stormwater control]: The Plan is very consistent; ~~like for example, together with R 216 215~~, this policy ~~basically~~ states the overall goals of the Plan for all areas outside the UGA.

NE 311, 312, 313 [streams and riparian habitat; lakes]: The Plan is very consistent by promoting protection and enhancement of such areas.

NE 314 - 329 [wetlands]: This is a lengthy series of policies regarding wetlands, from delineation through mitigation to banking. The Plan is generally very consistent with all of these policies, including the establishment of a mitigation banking program. NE 329. The major reservation is that Plan implementation may not be sufficient to meet all of the Comprehensive Plan's laudable objectives, such as "no net loss" of wetland functions and values. NE 316.

NE 330, 331 [floodplains]: The Plan is very consistent, including implementation of the King County Flood Hazard Reduction Plan, which is addressed below.

NE 332 - 336 [groundwater]: The Plan is very consistent with these policies designed to protect groundwater from detrimental impacts of contaminants, especially through source control measures.

NE 401 - 403 [erosion]: The Plan is consistent with these policies designed to reduce the risk of harm from erosion hazards. Erosion control is a major component of the water quality portion of the Plan.

NE 503 [vegetation retention]: The Plan is consistent in calling for retention of vegetated open space in order to reduce storm water runoff and water quality problems.

NE 601 - 612 [fish and wildlife]: The Plan is very consistent with these policies designed to retain the greatest possible diversity and quality of fish and wildlife species and habitat. As with wetlands, the major reservation is that the Plan is not able, by itself, to meet the goals broadly stated in the comprehensive plan.

F 301 - 307 [drinking water]: The Plan is consistent to the extent that it intends to protect both the quantity and quality of groundwater recharge areas that constitute the source of drinking water wells in the BPA.

F 308 - 318 [sewage disposal]: The Plan is consistent by advancing certain of these policies, particularly the goal of avoiding contamination of groundwater. The Plan is also

consistent by promoting maintenance of nonpolluting on-site sewage disposal systems in rural areas of the BPA.

F 323 - 328 [surface water management]: The Plan is very consistent; these policies essentially restate the policies and goals of the Plan.

PR 101 - 307 [parks, open space]: The Plan is consistent in that it provides for open space benefits as a secondary consequence of many of its elements.

I-112 [functional plans, printed below]: The Plan is consistent with this policy.

Conclusion: The Cedar Plan is generally very consistent with the 1994 King County Comprehensive Plan. To a large extent, it expressly implements many of the Comprehensive Plan's general goals. The major points of inconsistency are of potentially inadequate implementation of the Comprehensive Plan's broad resource conservation goals. This problem is caused by insufficient resources to meet the Comprehensive Plan's goals in a single, functional plan such as the Full Plan. The Cedar Plan clearly indicates how much effort is required to implement the Comprehensive Plan's goals.

City of Renton Comprehensive Plan (1995)

The City of Renton's Comprehensive Plan was completed between the time of the draft and final EIS for the Cedar Plan.

The City of Renton's Comprehensive Plan is second only to the County's in direct applicability and relevance to the Cedar Plan. The Cedar River flows into Lake Washington through the City. Renton's influence has gradually extended upstream along the mainstem and for the past century; most recent developments have occurred on the plateaus adjacent to the river. Renton is the only city with urban growth areas (UGAs) in the BPA.

Both the City and County comprehensive plans acknowledge the jurisdictional shift occurring between them. The Countywide Planning Policies and the comprehensive plans provide for annexation of areas in the BPA adjacent to the City as they are needed for housing and other urban land uses. The Urban Growth Boundary is established by these plans and indicates the area subject to urbanization until the next comprehensive planning effort in about ten years. Renton's plan implements the Countywide Planning Policy by calling for an interlocal agreement between the City and King County to implement this shift. Objective LU-KKK. Inclusion in that agreement of provisions regarding Plan elements in areas that may be annexed into Renton would certainly facilitate implementation of this Plan.

Policies of the City's Comprehensive Plan relevant to the issues considered in this EIS are:

- *Annexations.* These policies set forth criteria that may influence which portions of the BPA areas will be annexed into Renton for urban development, versus “rural areas which would remain rural in character in order to protect natural resources and/or rural zones to provide community separator areas.” Objective GGG, Policy LU-387. Objective LU-JJJ calls for protection of “the environmental quality of Renton by annexing lands where future development and land use activity could otherwise adversely impact natural and urban systems.” Policy LU-392.
- *Resource Land.* These policies recognize the importance of maintaining agricultural activities in the Cedar River Valley for open space, urban separators and other values. These goals are consistent with Plan goals of maintaining a flood hazard free, biologically healthy area. LU-SS.
- *Transportation.* A major focus of the City of Renton’s plan is to reduce reliance on single occupancy vehicles. To the extent that these policies tend to reduce the amount of land allocated to roads and highways (impervious surfaces) and the quantity of pollution that enters the watershed (hydrocarbons, heavy metals), they are very consistent with the Basin Plan. Summary (Transportation Element), Objectives T-J through T-N. As noted in the consideration of this element in the discussion of water quality (Section III.B.3), these impacts are difficult to quantify and very difficult to mitigate.

Another transportation policy in the City’s plan concerns the goal of protection of the City’s Municipal Airport as a significant economic resource. The plan calls for land use and other actions consistent with this goal. Objective T-Q, Policies T-46 through T-50. To the extent that the Basin Plan calls for actions leading to the reduction of the risk of flood damage in this reach, it is consistent with the City Plan’s policies. No Basin Plan elements are inconsistent with the City’s goal.

- *Housing.* Most new housing opportunities in the UGB will be provided in and near areas already characterized by urban growth, as required by the GMA. This section indicates that a plentiful housing supply will be available without the need to interfere with the resource protection policies of the City’s Comprehensive Plan or of this functional Plan.
- *Surface Water Utility.* The City generally adopts the County’s surface water design utility standards. There is unlikely to be any major change in this policy.
- *Parks and Open Space.* The City’s park and open space planning efforts include conservation of substantial portions of the Cedar River Valley in a generally undeveloped state. Objectives LU-VV, WW, XX and EN-K, and Land Use Map. These objectives are very consistent with the Plan’s flood hazard reduction and fish and wildlife habitat preservation goals.
- *Environmental.* The environmental policies in the City’s Comprehensive Plan are to “protect and enhance water quality,” “preserve and protect wetlands,” “conduct a stormwater management program which optimizes Renton’s water resources,” “protect and enhance wildlife habitat throughout the City,” and protect steep slopes,

landslide, and erosion hazard areas," etc. Objectives EN-B, EN-D, EN-F, EN-K, Policies EN-70 through 76. The Cedar Plan's goals are very consistent with these goals and objectives.

- *Land Use Designations.* Those portions of the BPA within the UGA but outside Renton's current corporate limits are still subject to King County Zoning. The biggest block of land in this category is the East Renton Plateau, on the north side of the Cedar River. A similar area occurs on the south side of the river. The City of Renton Comprehensive Plan indicates the zoning that will likely be applied to most of this area once it is annexed--eight housing units per acre, or approximately twice the current density. Although this fact is not inherently inconsistent with the Plan, it will be important that the annexation policies of the Countywide Planning Policies be used by the County and the City to ensure that Plan goals are met as the area becomes more urbanized. See Objective FFF, etc.

King County Community Plans

Implementation of the King County Comprehensive Plan will be done by functional plans (such as this Plan) and by subarea plans, which are to replace existing community plans. Community plans remain in force until replaced, to the extent that they are consistent with the Comprehensive Plan.

Adopted Community Plans covering the BPA are:

- Soos Creek, Update 1991;
- Tahoma/Raven Heights, 1984; and
- Newcastle, 1983.

The two earlier documents are primarily zoning plans. The Soos Creek Update makes more explicit reference, and implements, the broader resource planning requirements of the Growth Management Act.

Each of the three plans contains resource management and planning policies. None of these policies are inconsistent with the Cedar Plan. Some previous zoning provisions, such as the P-suffix zoning in the Soos Creek Community Plan Update to protect steep slopes on the south side of the Cedar River Valley, were carried over into the Cedar. In this regard, the Plan is therefore explicitly consistent with the earlier community plan.

As these community plans are updated or replaced, the new plans are required to be consistent with the Comprehensive Plan. Because the Cedar Plan functionally implements certain provisions of the Comprehensive Plan, it is expected that this Plan will help guide the development of the relevant policies of these new area plans to ensure overall consistency.

A subtle but significant change has occurred in the zoning regarding much of the area covered by these plans. Although the overall density allowed has not been significantly changed, the method of permitting it has. The earlier zoning provided for minimum lot sizes (e.g., 19,000 square feet), while the new zoning code under the Comprehensive Plan uses density limits (e.g., 2 units per acre). Although the overall number of housing units allowed is similar under both provisions, the latter allows for clustered housing and other innovative techniques that allow both increased housing density and greater protection of wetlands and other critical areas.

King County Flood Hazard Reduction Plan

The King County Flood Hazard Reduction Plan (FHRP) was adopted in 1993. This plan is one in a series of studies addressing the obvious flood hazard problems of the major rivers in King County. The FHRP was preceded by the King County Comprehensive Flood Control Management Plan, Phase I Report: Inventory and Analysis, SWM, 1990. The FHRP establishes policies regarding a number of issues that are directly applicable to the Cedar Plan. In addition, a number of the specific Plan elements, including a number of CIPs and programmatic measures, were explicitly listed for the Cedar BPA.

General policies:

- Policies G-2, 3, 5, FP-3, 4, 5, WM-1,3. New development should be regulated to avoid creation of new or increased flood hazards in the floodplain.
- Policy G-7, FP-6. Natural resource values and functions in the floodplain should be “protected, and where possible, enhanced or restored.”
- Policies G-8, 9, 10, 11, WM-4. Floodplain and upstream watershed management should be done in a cooperative, interdisciplinary and multi-objective manner; floodplain management policies should be consistent with this plan.
- Policies FP-8, WM-2. Floodplain planning should determine the future impact of development and the risk of flood hazard from future conditions in the floodplain.
- Policies FHR-1 through 9. These policies establish the prioritization process for development of plan elements in later, basin specific plans, such as the Cedar Plan. These policies establish multiple objective and efficiency criteria for plan element selection.
- Policies E-1, 2. These policies encourage public education and cross-jurisdictional assistance in the development, adoption and implementation of floodplain management plans.

Programs and Projects.

The FHRP contains a number of programmatic and project specific elements in furtherance of the general policies. Major programmatic elements relevant to the Cedar BPA include:

- Monitor all aspects of flood hazard reduction, including the costs of levee maintenance, the status of river channel migrations, and floodplain mapping accuracy.
- Complete investigation of the possibility of alteration of the operation of Masonry Dam.
- Establish a river steward program for the Cedar River.

A number of specific capital improvement projects are also identified in the Plan. Those located in the Cedar BPA are listed below, with the corresponding CIP number from the Plan indicated:

- Maplewood (3112)
- Person (3113)
- Elliot Bridge (3111)
- Jones Road (3111)
- Riverbend (3110)
- Ricardi (3109)
- Rainbow Bend/Cedar Grove (3108)
- MacDonald/Cedar Grove Road (3107)
- Byers Bend (3107)
- Jan Road/Taylor Creek (3106)
- Rhode/Getchman (3105)
- Lower Bain/Royal Arch (3104)
- Dorre Don (3102, 3103)
- Orchard Grove (3101)
- Arcadia/Noble (3100).

Conclusion.

The Cedar Plan is very consistent with the goals, general policies and specific elements of the King County FHRP.

King County Shoreline Master Program

The King County Shoreline Management Master Program (SMP) implements the state Shoreline Management Act of 1971 (SMA). The purposes of the SMA include the “preserv[ation of] the natural character of the shoreline, protec[tion of] the resources and ecology of the shoreline, [and to] increase recreational opportunities.” RCW 90.58.020. The SMA and implementing SMP consist of two major parts: general policy statements and guidelines, and specific shoreline designations with accompanying use restrictions. The latter are intended to further and implement the former.

The SMA establishes as “shorelines of the state,” subject to management under the SMA and implementing SMPs, all streams in the BPA with a mean annual flow equal to or greater than 20 cubic feet per second (cfs) and lakes with a surface area of at least 20 acres. Associated wetlands are included. Shorelines of statewide significance include rivers in western Washington with mean annual flows equal to or greater than 1000 cfs, and lakes (such as Lake Washington) of at least 1000 acres.

King County’s Shoreline Master Program is at KCC Title 25. The SMP designations of shorelines in the BPA have not changed in many years. The entire mainstem and its floodplain (above the City of Renton) is designated conservancy. The intent of the conservancy designation is to “protect, conserve, and manage existing natural resources.” KCC 25.24.010. Conservancy is second only to the “natural” designation for strictness of development regulation; most structural development is not permitted in the conservancy zone.

A small portions of Rock Creek is also included in the SMP and designated conservancy. The other tributaries in the BPA do not have sufficient flows to meet the minimum jurisdictional requirement of the SMA.

The policies of the Plan are completely consistent with the policies of the SMA and implementing SMP—protection and enhancement of natural resources as well as avoidance of creating or expanding flood hazards.

King County Sensitive Areas Ordinance

The King County Sensitive Areas Ordinance (SAO) is found at KCC Chapter 21A.24. The purpose of the SAO is to protect the public interest in environmentally sensitive areas, such as wildlife habitat and unstable slopes. The SAO implements both the Comprehensive Plan and mandates under the State Environmental Policy Act (SEPA), and, through the comprehensive plan, the Growth Management Act (GMA). The GMA specifically requires King County to enact regulatory controls to protect and conserve

designated resources and to protect the public from the hazards of development on steep and unstable slopes and the like.

There are a number of provisions in the SAO that are relevant to the Cedar Plan:

Flood hazard areas. The SAO prohibits development that would “reduce the effective base storage volume of the floodplain.” KCC 21A.24.240. (This is known as the “zero rise” rule.) Recent amendments to the SAO provide for implementation of Plan element MS 6: Channel Migration Hazard Areas. Section 75, Ordinance 11621.

Wetlands. The SAO contains King County’s wetlands protection regulations. KCC 21A.24.320-350. Recent amendments facilitate implementation of a number of Plan elements by making it easier for government agencies to enhance wetlands. Section 78, Ordinance 11621.

The SAO also contains provisions to protect streams and to avoid resource damage from erosion hazard areas, steep slopes, and landslide hazard areas. Overall, Plan objectives are completely consistent with the thrust of the SAO.

Puget Sound Water Quality Management Plan (PSWQA) (1994)

The Puget Sound Water Quality Authority was created by the legislature in 1985. A major goal of the PSWQA was to “develop a comprehensive plan for water quality protection in Puget Sound to be implemented by existing state and local governments.” RCW 90.70.001. The Cedar Basin and Nonpoint Pollution Action Plan has goals that directly overlap and match the Puget Sound Plan.

The first Puget Sound Water Quality Management Plan was completed in 1987. The current, and fourth, published plan is dated 1994. Aquatic resource protection issues addressed in the Puget Sound Water Quality Management Plan are explained in detail by the State of the Sound Report (1986, 1988) and issue papers on nonpoint pollution (1986) and fish and wildlife habitat (1990). The quality of Puget Sound Water Quality Authority documents is generally recognized as excellent and the reader is referred to them for good summary discussions of the relevant issues. The Authority also issued *Managing Nonpoint Pollution*, 1993, which is specifically designed to provide guidelines for the development of nonpoint action plans under WAC 400-12. The Plan is such a document.

A major conclusion of the Puget Sound Plan is that solutions to the identified problems (environmental degradation of Puget Sound) are as long term as the causes. The Cedar Plan is very similar in this respect; unlike land use or comprehensive plans, the Puget Sound Plan and the Cedar Plan address problems arising from decades of unwise or unsustainable land and resource use decisions.

The main points of congruity between the Cedar Plan and the Puget Sound Plan are with respect to water quality protection and fish and wildlife habitat preservation. The Puget Sound Plan specifically provides:

Fish and Wildlife. The Puget Sound Plan encourages state and local agencies to work together to develop best management practices (BMPs) that will conserve fish and wildlife habitat conservation measures. Hydraulic Project Approval (HPA) permits receive the most attention, since HPAs are the most direct legal tool available to protect fish and related aquatic habitat. Other plan elements are more educational and process oriented.

Nonpoint Source Pollution. The Puget Sound Plan has a number of program elements that are directly relevant to the Cedar Plan goal of water quality protection. One calls for the identification by Counties of "early action" watersheds, where nonpoint pollution action plans would be initiated at the earliest possible date. The Cedar River Basin Plan was not prepared as an early action, but the Cedar River was ranked number one by King County in the regular watershed ranking process. Much of the work leading to the Plan was funded through the Department of Ecology to implement provisions of the Puget Sound Plan.

Wetlands. The Puget Sound Plan identifies wetlands as an "economically, biologically, and physically valuable resource." The plan concludes that protection of and mitigation for loss of this resource is very difficult. Plan elements provide for development of a model ordinance that meets the goal of wetland value and function conservation. King County was identified in the plan as the recipient of funds to develop such a model ordinance in the form of the King County SAO.

Puget Sound Plan program elements also tie each resource area to GMA implementation by state and local agencies. The Cedar Plan, as a GMA implementing action, is also directly implementing of and consistent with the Puget Sound Plan.

Priority Habitat and Species, WDFW

The state agency with responsibility for conservation of ~~the state~~ fish and wildlife resources has conducted numerous studies and issued planning documents with respect to their management. The most recent and relevant to the Cedar Plan is the Priority Habitat and Species (PHS) program. The PHS contains specific recommendations for local governments to use as they implement the critical areas protection requirement of the GMA (which explicitly includes "fish and wildlife habitat conservation areas" RCW 36.70A.030(5)(c)).

A number of jurisdictions explicitly incorporate the PHS guidelines into their comprehensive plans. King County has adopted the PHS in its Comprehensive Plan (Policy NE-604) and the relevant guidelines are listed in Appendix C to that plan.

The Cedar Plan is very consistent with the PHS as well as with the overall mission of the WDFW.

Instream Resources Protection Program (IRPP), Washington Department of Ecology

The Washington Department of Ecology (WDOE), pursuant to the Water Resources Act of 1971, managed a process to establish minimum instream flows on the Cedar River. The resulting document, the Cedar-Sammamish Basin Instream Resources Protection Program and Supplemental FEIS (1979), established minimum flows that are similar to those set forth in the Conditions Report at Table 3-3 (Page 3-14). In essence, the WDOE, as the adjudicating agency, compromised the positions of all affected parties¹² (primarily ~~WDOE~~, Seattle Water Department (SWD) and WDFW) negotiated and enacted the flows that became codified in WAC 173-508. These flows replaced earlier, ~~lower~~ minimum flows that were the first to be established under the minimum flow statute, RCW 90.22. In fact, the 1979 flows were substantially lower for most of the year (370 cfs vs. 480 cfs) but were increased for the critical summer months (130 cfs vs. 75 cfs). The 1979 regulations also added a lower set of figures for one in ~~10~~ ten critical water years (250 cfs winter, 110 cfs summer/fall).

The Cedar-Sammamish IRPP SFEIS does accurately display in a general way the environmental impacts of setting minimum flows in the Cedar River. "The proposal is designed to have a positive effect on the fisheries resource" ... [and] ... "will have no direct effect on flooding."

Three major entities take positions that are inconsistent with each other's position regarding minimum flows in the Cedar River. The SWD claims that it has vested rights to take substantially more water than the 1979 minimum flow regulations permit. The U.S. Army Corps of Engineers (COE) claims that its navigational servitude under federal law, attached to operation of the Ballard Locks, overrides all other considerations, especially consumptive withdrawals such as the SWD's. The COE's claims are consistent with the maintenance of instream flows; the use is "instream" to protect navigation on Lake Washington and the operation of the locks. The Muckleshoot Indian Tribe supports maintenance of instream flows for reasons that are more directly supportive of Cedar Plan goals, namely protection of aquatic habitat.¹³

These water rights disputes are generally beyond the scope of the present Plan. The reader is referred to the IRPP for more detail and citations to other sources. However, operation

¹² The Muckleshoot Indian Tribe was not an active participant in the development of the 1979 IRPP. ~~The Tribe, with adjudicated rights to Cedar River fisheries resources, must be a party to any future resolution of these matters.~~

¹³ The Tribe, with adjudicated rights to Cedar River fisheries resources, must be a party to any future resolution of these matters.

of the Masonry Dam does have a significant potential impact on flooding in the Cedar River floodplain, as well as on the ability of resource managers to maintain minimum flows to protect instream resources (e.g., fish populations). Plan element MS 1: Masonry Dam Operations Study, is designed to address this and related ~~instream-flow~~ issues in a comprehensive fashion. MS 1 is consistent with the purpose and intent of the 1979 IRPP.

Part VI. Bibliography

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WDFW, 1992, Priority Habitat and Species Report

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Part VII. Distribution List and List of Acronyms

A. Distribution List

Federal Agencies

Environmental Protection Agency
Federal Emergency Management Agency
National Marine Fisheries Service
U.S. Army Corps of Engineers, Seattle District
U.S. Fish and Wildlife Service

State Agencies

Department of Ecology
Department of Ecology (SEPA Center)
Department of Fish and Wildlife
Department of Natural Resources
Department of Transportation
Puget Sound Cooperative River Basin Team
Puget Sound Water Quality Authority

County Agencies (King County)

Department of Development and Environmental Services
Department of Parks, Planning and Resources
Office of Emergency Management
Planning and Community Development Division
Roads and Engineering Division
Solid Waste Division
Water Quality Section (Metro)

Municipalities

City of Kent
City of Renton
City of Seattle

Tribal Governments

Muckleshoot Indian Tribe
Northwest Indian Fisheries Commission

Other Agencies

King Conservation District
Washington State University, King County Extension Service

Organizations

Fairwood Crest Homeowners Association
Greater Maple Valley Area Council
Hedges & Roth Engineering Co.
Lake Desire Community Club
Maplewood Homeowners Association
Members of Citizen's Advisory Committee (See Plan)
Members of Technical Advisory Committee (See Plan)
Members of Watershed Management Committee (See Plan)
Mid-Sound Fisheries Enhancement Group
Salmon and Steelhead Council of Trout Unlimited
Shady Lake Community Council
The Boeing Company
Washington Environmental Council
Washington Farm Forestry Association

Individuals

Donald Anderson
Curtis, Lorenz, Lyons, Tonkin
Robert Dixon
Regina Gilmore
Michael Heavey, Esq.
Miles Langdahl
Kim Odstreil
Darrell Offe, P.E.
Craig Sears
Numerous other attendees at public meetings on the Draft Plan and EIS

B. Acronyms commonly used in this EIS

BMP	Best Management Practice
BPA	Basin Planning Area
CIP	Capital improvement project
EIS/DEIS/FEIS/SEIS	Environmental impact statement/Draft/Final/Supplemental
FHRP	King County Flood Hazard Reduction Plan
GMA	Growth Management Act
HPA	Hydraulic Project Approval
IRPP	Instream Resources Protection Program
NPDES	National Pollution Discharge Elimination System
PHS	Priority Habitat and Species, a program of the WDFW
PSWQA	Puget Sound Water Quality Authority
RSRA	Regionally Significant Resource Area
SAO	Sensitive Areas Ordinance
SEPA	State Environmental Policy Act
SMA/SMP	Shoreline Management Act/Shoreline Management Master Program
SWD	Water Department, City of Seattle
SWM	Surface Water Management Division, King County Department of Natural Resources
UGA/UGB	Urban Growth Area/Urban Growth Boundary
WDFW	Washington Department of Fish and Wildlife
WDOE	Washington Department of Ecology
WMA	Wetland Management Area